在上届正大集团学术研讨会上，来自中国的摘要示例

Examples of abstracts from China at the previous CP Symposium

摘要撰写指南

摘要应以母语和英语分别撰写，内容需简明扼要，长度不超过一页 A5 纸。摘要应包括以下三个段落:

1. **现状描述** – 描述现有情况或当前所采用方法的背景、重要性或所面临的挑战。
2. **采取的措施** – 解释为解决、改进或提升第一段（现状描述）中提到的问题而应用的原理、技术或实践方法。应包括工作的范围及更广泛的影响，必要时可对比过去的做法以突出差异。
3. **结果概述** – 总结所采取措施的成果，包括可量化的收益（如收入增长、污染水平降低、工作时间缩短等）以及不可量化的收益（如创建学习模型、提高意识、支持国家、企业或组织目标等）。同时应提及获得的专利或在各类平台上获得的奖项。

Guidelines for Writing an Abstract

The abstract, both in the native language and English, should be concise and not exceed one A5 page in length. It should consist of three paragraphs as follows:

1. **Current Situation** – Describe the background, significance, or challenges of the existing situation or current methods being used.
2. **Actions Taken** – Explain the principles, technologies, or practices applied to address, improve, or elevate the issues mentioned in the first paragraph (Current Situation). Include the scope of work and the broader impact, possibly comparing the differences from past practices.
3. **Results Summary** – Summarize the outcomes of the actions taken, including measurable benefits, such as increased revenue, reduced pollution levels, shortened working hours, etc., as well as non-measurable benefits, such as creating learning models, fostering awareness, supporting national, corporate, or organizational goals. Mention any patents obtained or awards received from various platforms.

生命科学摘要写作示例

Example of Abstract Writing in Life Sciences

种虾灯控系统升级

Han Zhuangding, Chen Qingchun
C.P. Aquaculture (Dongfang) Co., Ltd.

种虾灯控原系统是通过裸露在外面变压器（存在安全隐患）的等级电压控制亮度的，电压等级分别是 85V、100V、115V、130V、145V、160V、175V、190V、205V 和 220V 等 10 个等级，实现不同时间输出不同电压，实现白炽灯的不同亮度，尽可能的模拟昼夜，电压过渡不是逐渐变化的，而是直接转换，这样的效果不是很理想。升级后的灯控系统是通过全隔离单相交流调压模块和模拟量模块控制，系统从 0-220V 和 220-0V 模拟控制亮度逐渐改变实现白炽灯的不同亮度，模拟昼夜更逼真，南美白对虾生存环境更改善，更有利于它们产卵，提高产能。 创新前： 灯控系统的时控开关设定工作时间段为（23:30-13:30，即 23:30 开始，13:30 关闭，生产期间每天不断循环。受控对象为白炽灯和日光灯，日光灯是不可调的（仅控制开/关状态），而白炽灯为可调的，其是通过变压器的等级电压控制亮度的，电压等级分别是 85V、100V、115V、130V、145V、160V、175V、190V、205V 和 220V 等 10 个等级，实现不同时间输出不同电压，实现白炽灯的不同亮度，尽可能的模拟昼夜，电压过渡不是逐渐变化的，而是直接转换，这样的效果不是很理想，而且变压器裸露在外面不安全，容易出电气事故和安全事故。 创新后： 1.采用自动控制系统，简单方便，节省人力，安全高效； 2.更逼真的昼夜模拟效果，是的种虾在更接近自然的效果下养殖； 3.提高养殖效率，生产效率。

Shrimp lamp control system upgrade

Han Zhuangding, Chen Qingchun
C.P. Aquaculture (Dongfang) Co., Ltd.

The original lamp control system controls the brightness through the voltage level of the transformer exposed outside (with potential safety hazard). The voltage levels are respectively 85V, 100V, 115V, 130v, 145v, 160V, 175v, 190V, 205v and 220V. It can output different voltages at different times and achieve different brightness of incandescent lamps. It can simulate day and night as much as possible, and the voltage transition is not gradual It's a direct conversion, which is not ideal. The upgraded lamp control system is controlled by fully isolated single-phase AC voltage regulation module and analog module. The brightness of the system is gradually changed from 0-220 V and 220-0 V to realize different brightness of incandescent lamps. The simulated day and night are more realistic, and the living environment of Penaeus vannamei is improved, which is more conducive to their spawning and productivity. Before Innovation: the time control switch of the light control system is set to work from 23:30 to 13:30, that is, it starts from 23:30 and closes at 13:30. During the production period, it circulates continuously every day. The controlled objects are incandescent lamp and fluorescent lamp. The fluorescent lamp is not adjustable (only control on / off state), while the incandescent lamp is adjustable. The brightness is

controlled by the level voltage of the transformer. The voltage levels are 85V, 100V, 115V, 130v, 145v, 160V, 175v, 190V, 205v and 220V, respectively. Different voltages are output at different times to realize different brightness of the incandescent lamp As far as possible to simulate day and night, the voltage transition is not gradual change, but direct conversion, the effect is not very ideal, and the transformer exposed outside is not safe, prone to electrical accidents and safety accidents. After innovation: 1. Adopt automatic control system, simple and convenient, save manpower, safe and efficient; 2. More realistic simulation effect of day and night, that is to say, the breeding shrimp are cultured under the effect closer to nature; 3. Improve breeding efficiency and production efficiency.

封闭式工厂化小水体高密度养殖模式

Xu Youshen, Zhang Jinyi
Dongying Chia Tai Aqua Co., Ltd.

从全球角度来看，当今世界的对虾养殖未来利润点在于稳定生产、提高养殖成活率；该项目的目的打通对虾全产业链难点、通过对水质、溶氧、温度进行全人工控制养殖环境，实现养殖成功率提升至 60-80%。通过工厂化养殖可提高养殖密度，养殖产量可高达 10-15kg/㎡。在中国山东地区反季节养殖，冬季利润可达 40 元人民币/公斤；养殖方式主要为两阶段式养殖：标粗阶段（P5-P25),成虾养殖阶段（P25-P110);养殖水体恒温 28±0.5℃,前端进行水处理，精准投喂、可以准确控制吃料时间；平均单产达到 10kg/㎡以上，最高可以达到 15kg/㎡；已实现盈利，预计年投资回报率约为 80%;

Shrimp Production Efficiency

Xu Youshen, Zhang Jinyi
Dongying Chia Tai Aqua Co., Ltd.

From a global perspective, the future profit point of prawn culture in today's world lies in stable production and improving the survival rate of prawn culture. The purpose of this project is to overcome the difficulties in the whole industry chain of prawn culture and realize a breeding success rate of up to 60-80%, by fully controlling the breeding environment of water quality, dissolved oxygen and temperature. Through the factory breeding, we can improve the breeding density; breeding output can be up to 10-15kg/㎡. Farming out of season in Shandong, China, the winter profit can reach 40 YUAN/kg; The culture mode was mainly two stages: standard coarse stage (P5-P25), and adult shrimp culture stage (P25-P110). The aquaculture water body is kept at a constant temperature of 28±0.5℃, and the water treatment is carried out at the front end to accurately feed and accurately control the feeding time. The average yield per unit area is more than 10kg/㎡,

with the highest point reaching can reach 15kg/㎡. This project is profitable, with an estimated annual return on investment of about 80%, and serves as an interesting model for further expansion.

创建国家级无非洲猪瘟小区项目

Zhou Hailong
Jiangsu Chia Tai Suken Pig Industry Co., Ltd.

一、现状 2018 年 8 月我国发生非洲猪瘟疫情后，防非洲猪瘟工作成为猪场防疫工作重中之重。2019 年 12 月根据中华人民共和国农业农村部公告（第 242 号），农业农村部办公厅关于印发“无非洲猪瘟区标准”和“无规定动物疫病小区管理技术规范”的通知（农办牧 2019〖86〗号）文件，领会“国务院办公厅关于加强非洲猪瘟防控工作的意见”（国办发〖2019〗31 号）和“国务院办公厅关于稳定生猪生产促进转型升级的意见”（国办发〖2019〗44 号）精神，参照“无规定动物疫病小区评估管理办法”成立无非洲猪瘟疫情小区专项小组，积极准备无非洲猪瘟小区的筹建工作，经过 1 年多的努力于 2021 年 2 月正式通过 1、设计建成生猪养殖管理信息系统，实现信息可追溯 2、建立生物安全管理小组，负责生物安全计划制定和实施，风险评估 3、升级改造洗消中心，建立非洲猪瘟检测实验室 4、猪场分区管理，增加物理隔断 5、增设猪场外围中央厨房、物料预处理中心及猪只中转平台，完善人员隔离 二、进展 1、设计建成生猪养殖管理信息系统，实现信息可追溯 2、建立生物安全管理小组，负责生物安全计划制定和实施，风险评估 3、升级改造洗消中心，建立非洲猪瘟检测实验室 4、猪场分区管理，增加物理隔断 5、增设猪场外围中央厨房、物料预处理中心及猪只中转平台，完善人员隔离

China ASF control

Zhou Hailong
Jiangsu Chia Tai Suken Pig Industry Co., Ltd.

Since the outbreak of African swine fever (ASF) in China in August 2018, the prevention of ASF has become the top priority for epidemic prevention in farms. In December 2019, according to the Announcement of the Ministry of Agriculture and Rural Affairs of the People's Republic of China (No. 242), the Notice of the General Office of the Ministry of Agriculture and Rural Affairs of the People's Republic of China on the issuance of “Standards for ASF-free areas” and “Technical Specifications for the Management of Breeding Zone without Specified Animal Disease” (2019 No. [86]), by understanding the spirit of the “Opinions of the General Office of the State Council on Strengthening the Prevention and Control of African Swine Fever” (Issued by The General Office of the State Council [2019] No.31) and the “Opinions of the General Office of the State Council on

Stabilizing Swine Production and Promoting Transformation and Upgrading" (State Office of the People's Republic of China [2019] No. 44), and referring to the "Administrative Measures for the Evaluation and Management of Community without Specified Animal Disease", a task group for ASF-free breeding zone was established to actively prepare for the establishment of ASF-free breeding zone. After more than one year's efforts, in February 2021, it was officially approved: 1.Designed and establish the swine breeding management information system to achieve information traceability 2.Established a biosecurity management group to be responsible for the formulation and implementation of biosecurity plans and risk assessment 3.Upgraded and reformed the decontamination and sterilization center, and built up a laboratory which specified for African swine fever detection 4. Installed more physical partitions to achieve divisional management in the farms 5. Built up central kitchens, material pretreatment centers and pig transfer platforms outside farms to improve avoid contamination from the stream of people

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工程学摘要写作示例

Example of Abstract Writing in Engineering

完全生产过程

Sumruay Butakhieo
Beijing Headquarter

过去，正大集团全球的饲料厂在饲料订单方面存在一些问题。生产计划、生产准备、生产过程和饲料配送每个步骤都需要人工输入数据。数据未能及时更新且未完全集成，导致了流程错误、准备和生产延误。数据不及时更新，也没有完全集成。完整的过程是一个全新的过程，颠覆了旧的流程。通过农场部门、饲料厂、正大集团 IT 部门、工厂控制部门和正大中国的经验与专业知识的协同合作，共同设计并建设了完整的流程系统。来自 WINFARM、WINFEED、工厂控制的三个系统的数据将根据模式自动连接。经过共同设计，工作流程中无需操作员，系统将自动完成整个流程。从饲料订购、生产计划、生产准备、生产到饲料配送。完整流程是一个高科技的数据管理系统，用于控制饲料生产。这家饲料厂是第一个创建并实施这一系统的饲料厂，能够减少 5 个工作岗位，提高每月生产效率 1,688 吨，减少 7 个工作步骤，提高至少 3000 万泰铢的生产价值。

Complete Process

Sumruay Butakhieo
Beijing Headquarter

In the past, CP feed mills around the world have a problem about ordering feed. Production planning, Production preparation ,Production process , feed delivery Each step uses people to key data. Data is not up-to-date and integrated. There was a process error, preparation and production delays. Data is not up-to-date and is completely integrated. Complete process is a new process that disruptive the old process. By synergy from the experience and expertise of Farm department, feed mill , CPF IT unit, Plant control unit, CP CHINA jointly design and build complete process system. Data from WINFARM, WINFEED, Plant control, all three systems will be automatically linked according to the pattern. Jointly designed Without operator in the work process, the system will complete the process automatically. From ordering feed , Production planning , Production preparation , Production and feed delivery . Complete process is hi tech data management system and control feed production. This feed mill is the first feed mill create and implement this system , Can reduce 5 people in the work, increase the production efficiency of 1,688 tons per month, reduce the work process in 7 steps, increase the production value at least 30 million baht.

数字化饲料厂创新项目

Luo Huijun
Southwest Area

原重庆正大老厂坐落在重庆市江北区石马河，随着中国城市化建设的快速发展，工厂围墙东侧修建了一个中学校，西侧和南侧修建了高级住宅小区，由于地处重庆市内环中心区域，白天不允许货车通行，造成工厂白天不能发货，夜间由于噪音气味等环保投诉不能生产的局面，对我们的生产经营造成了极大的影响。 原老厂是 1991 年修建的，设备陈旧，机械化、自动化程度低，用人多，安全、环保方面存在隐患。在这种情况下，工厂必须异地重建。 在新厂规划之初我们就定下了以“原料散装化、装卸机械化、运行自动化、过程可视化、饲料质量合规化、安全管理标准化”的“六化”目标来进行设计和建设。通过引进国内外高技术的饲料生产设备及新技术 30 余项，用先进的流程把这些设备及技术整合起来，同时融合我们自己的一些创新技术，把新厂建设成为用人少、效率高的饲料加工生产企业。 为此特别成立了以唐贻林副董事长、邵来民副董事长为首的领导团队，以姜作奎资深总裁、李阳工程项目总监为首的中泰专家团队。团队成员考察了国内外先进的饲料厂和饲料生产设备供应商，我们总结了正大集团近百年饲料生产加工过程中的经验教训，引进了当前国内外最先进的饲料成套生产设备及配套的仓储、物流技术，与我们自身的独有技术相融合，形成了重庆正大独有的数字化饲料厂。

Digital feed factory

Luo Huijun
Southwest Area

The former Chongqing CP old factory is located in Shima River, Jiangbei District, Chongqing. With the rapid development of urbanization in China, a middle school has been built in the east of the factory wall, and a high-grade residential district has been built in the West and south of the factory wall, The situation that we can't produce at night due to environmental complaints such as noise and smell has a great impact on our production and operation. The old factory was built in 1991, with obsolete equipment, low degree of mechanization and automation, and a large number of employees. There are hidden dangers in safety and environmental protection. In this case, the factory must be rebuilt in another place. At the beginning of the new plant planning, we set the six goals of "raw material bulk, loading and unloading mechanization, operation automation, process visualization, feed quality compliance, and safety management standardization" to carry out the design and construction. By introducing more than 30 high-tech feed production equipment and new technologies at home and abroad, integrating these equipment and technologies with advanced processes, and integrating some of our own innovative technologies, the new plant will be built into a feed processing and production enterprise

with fewer employees and high efficiency. To this end, a leading team headed by vice chairman Tang Yilin and vice chairman Shao laimin, and a Sino Thai expert team headed by senior President Jiang Zuokui and project director Li Yang were set up. The team members inspected the advanced feed factories and feed production equipment suppliers at home and abroad. We summarized the experience and lessons of the feed production and processing process of CP Group in the past 100 years, and introduced the most advanced feed production equipment and supporting warehousing and logistics technology at home and abroad, which are integrated with our own unique technology, Chongqing CP Feed Co.,Ltd. has formed a unique digital feed factory.

Digital Operation System for the Industry Chain-Smart Breeding Cloud Platform (Pig)
Ren Weichao

一．新常态创新背景下的变革
数字化管理是养殖 4.0 的核心生产力，养殖 4.0 对数字化系统提出了新的变革需求。目前集团养殖管理系统 Pigpro 存在以下痛点：
1.现场手抄记录，下班后人工统计，内勤第二天录入系统，数据准确性和及时性难以保证；
2.只记录养殖生产结果数据，生产过程数据并没有录入在系统里，这些过程数据对于精细化管理至关重要；
3.正大集团多年积淀的养殖标准流程没有嵌入到养殖管理系统中。
4.设备、环控采购、物流、生产安全等模块都是独立系统，没有形成统一信息化平台。

针对以上问题，内蒙养殖云平台给出如下的解决方案：
1.（数据准确性）新的云平台中，基础数据直接对接底层设备，避免人工录入，包括饲料耗用，水、电、气读数等；采用物联网 RFID 技术，根据预设的 SOP，在各生产关键环节实行扫描，自动采集全部生产过程数据，即时生成报表；
2.（过程管理）新的云平台中深入调研一线标准化农场，对养殖全过程进行管控，所有的过程管理数据均在系统中管理；
3.（养殖 SOP 与系统深度结合）根据生产 SOP 自动生成工单，对异常的数据进行预警，实现了对每天工作任务下达及人员工作进度的实时追踪，从而实现标准化管理；
4.（全产业链平台）新的云平台可通过电脑与手机操作，功能全方位涵盖了智慧养殖、环境控制、系统预警、实景监控、物流调度、员工培训、绩效考核等内容，实现农场系统化、智能化、可视化管理。同时，实现自动计算成本、毛利、人效等指标，并集成屠宰管理功能，建立动物营养、动物健康、全价值猪等大数据模型，打造猪场智能管理驾驶舱。

在新冠和非瘟防控的双重压力下，养殖管理亟待解决远程管理和可视化的问题。在新的云平台中，首先利用云计算、大数据、物联网技术，养殖过程以工单为引擎，实现主动工作流。不进入农场也能通过手机或 PC 实时查看场内生产情况，包括工作过程、生产场景视频、环境控制状态，全程实时提醒、预警可视化管理。平台每天推送场内生产经营日报。农场出现异常情况通过云平台第一时间发出报警，通知相关的责任人处理。同时，采用大数据分析的技术实现了生物安全监控智能分析，杜绝了生物安全违规事件的发生，用科技为北方区安全防控增加一道坚实的屏障。

二．内蒙养殖云平台使用效率简述
2.1 一线人员：所有工作工单管理，每天上班按系统分配任务完成负责的工作，及时处理各自相关预警。所有数据采集在工作过程中同步完成，用手持机扫描记录即可，不再需要手工纸质记录统计整理。
2.2 管理人员：一线管理人员可以通过系统派单来安排工作，对于常规性工作系统自动下发工单主管确认即可；生产管理人员可以通过手机随时查看工作进展，以及生产成绩；每天还会收到平台自动推送的日报；管理人员不再需要进舍核实工作完成情况，所有的视频，设备均可在线查询；
2.3 内勤：减少 90%系统相关工作；
2.4 系统完整的数据资源为后期大数据分析提供了数据基础。

Digital Operation System for the Industry Chain-Smart Breeding Cloud Platform (Pig)
Ren Weichao

I. Transformation Under the Background of New Normal Innovation
Digital management is the core productivity of Animal Farming 4.0, which raises new transformational demands for digital systems. Currently, the group's animal farming management system, Pigpro, has the following pain points:
1.On-site manual records, statistical work after work hours, and system input by office staff the next day, making data accuracy and timeliness difficult to guarantee.
2.Only production results are recorded, and production process data is not entered into the system. These process data are critical for fine management.
3.The standardized farming processes accumulated by Chia Tai Group over the years have not been integrated into the animal farming management system.
4.Modules for equipment, environmental control, procurement, logistics, production safety, etc., are independent systems, lacking a unified information platform.

In response to the above issues, the Inner Mongolia Animal Farming Cloud Platform provides the following solutions:
1.(Data Accuracy) In the new cloud platform, basic data is directly connected to the underlying equipment, avoiding manual input, including feed consumption, water,

electricity, and gas readings. IoT RFID technology is used to scan at key production stages according to preset SOPs, automatically collecting all production process data and generating reports in real time.
2.(Process Management) In the new cloud platform, in-depth research on frontline standardized farms is conducted to control the entire farming process. All process management data are managed within the system.
3.(Integration of Farming SOPs with the System) Work orders are automatically generated based on production SOPs, and abnormal data triggers early warnings. This enables real-time tracking of daily work tasks and employee progress, achieving standardized management.
4.(Full Industry Chain Platform) The new cloud platform can be operated through both computers and mobile phones, offering comprehensive features that cover smart farming, environmental control, system warnings, real-time monitoring, logistics scheduling, employee training, performance assessments, and more. It enables systematic, intelligent, and visualized management of farms. At the same time, it automatically calculates costs, gross profit, labor efficiency, and other metrics, integrating slaughter management functions. It also builds big data models for animal nutrition, animal health, and full-value pigs, creating an intelligent farm management cockpit.

Under the dual pressure of COVID-19 and African Swine Fever control, farming management urgently needs to address the issues of remote management and visualization. In the new cloud platform, cloud computing, big data, and IoT technologies are utilized, with the farming process driven by work orders to create an active workflow. Without entering the farm, real-time production conditions can be viewed through a mobile phone or PC, including work processes, production scene videos, and environmental control statuses. Real-time reminders and warnings enable visualized management throughout the process. The platform pushes daily production and operation reports. If any abnormal situation occurs at the farm, an alarm is sent immediately through the cloud platform to notify the responsible person for handling. At the same time, big data analysis technologies are used to implement intelligent biosecurity monitoring and analysis, preventing biosecurity violations and adding a solid barrier for safety and control in the northern region with technology.

II. Brief Overview of the Efficiency of the Inner Mongolia Animal Farming Cloud Platform
2.1 Frontline Personnel: All work orders are managed, with tasks assigned by the system at the start of each workday. Frontline personnel complete their responsible tasks and address related warnings promptly. All data collection is synchronized during the work process, and handheld devices are used for scanning and recording, eliminating the need for manual paper-based records, statistics, and organization.

2.2 Managers: Frontline managers can assign tasks through the system, and for routine tasks, the system automatically issues work orders for supervisor confirmation. Production managers can check work progress and production results anytime through their mobile phones. They will also receive daily reports automatically pushed by the platform. Managers no longer need to enter the farm to verify task completion; all videos and equipment can be checked online.
2.3 Office Staff: 90% reduction in system-related work.
2.4 Complete Data Resources: The system's comprehensive data resources provide a solid foundation for big data analysis in the future.

CP Group Digital Warroom
Hou hua

转型有方，科技先行。 正值集团组织转型、战略转型、数字化转型的三大转型之际，为解决匹配“战略与执行、经营与追踪、决策与信息、绩效与考核”四大痛点，塑造集信息中心、监控中心、决策中心、指挥中心为一体的正大智慧大脑，形成支撑集团实现三大转型的数字化战房平台。
根据谢国民集团资深董事长关于正大 4.0 产业升级的指示，以及谢吉人集团董事长关于做全球最大食饮供应商、全球最大的食饮渠道商的要求，在杨小平中国区 CEO，杨森源财务长，张宁博士，郑凌云副董事长的带领下，战房数据中心作为集团工字化架构的脊椎系统，打破筒仓，整合产业链信息，拆解战略目标到责任人，上连天下接地，聚焦于打造数字化、可视化的战房体系，通过实时透明可视的检视，实现人在做、云在看，业务经营公开透明，真正做到连天接地的神经枢纽，同时战房数据中心不断迭代演进战房体系，以持续推动集团数字化管理的实现，人业财数据的融合，上下游四位一体模式的发展。
项目于 2019 年 5 月启动，依托集团多年信息化建设的成果，战房数据中心与财企中心协同，通过算法算力将数据形成数据资产，经历 2 年多努力自主搭建了战房平台并建立了强大支撑运营体系，由业务专家、财务专家、数据科学家组成的运营团队，通过专业化分析、全程性追踪和监测，让决策有支持、行动有方案、执行有追踪。同时赋能一线，转变经营管理思维，实现从管控到赋能的数字化企业管理新模式，变被动管理为自我驱动的全面赋能企业数字化经营管理。
截至 2021 年 11 月，已完成自主研发 12 块战房电子大屏，覆盖猪、肉鸡、蛋鸡、莲花、优鲜、水产、饲料和现代食品等 8 条核心事业线；自主研发战房 PAD 和战房 APP，同时打通所有研发平台，形成一套数据同源、安全体系统一、使用场景联动的有机整体。支撑战略目标分解，持续追踪战略目标达成情况；及时追踪并预警事业盈亏、溯因到人、并出具标准化方案精准推送到责任人；我们将绩效目标分解到人进行追踪，对人才进行赋能、考核，提高人员效能；运用大数据、AI、IOT 及语音识别等先进的科技手段，赋能产区、战区的管理和日常运营，并用数字化、智能化的体系进行产销协同、持续追踪物流信息，

完成项目精细化管理，及时预警经营问题，助力业务标准化；实时实景监控场栋运转，及时进行生物防疫。战房平台月均访问量达 10588 人次，赋能 12 条事业线，每年降低 1645 人力成本，实现 IRR77.89%。
战房助力全集团业务稳健发展。业务策略上，助力集团打造全产业链长期可持续的竞争优势，产出高质量、高品质、安全卫生的食饮产品。经营管理上，深入推进数字化转型，赋能产区、战区团队实现 “经营管理智慧化、流程运营数据化、渠道建设精细化、客户服务个性化” 同时，通过数字化服务持续升级终端客户体验、加速科技赋能外溢，助力集团业务壮大，服务国计民生，利国利民。

CP Group Digital Warroom
Hou hua

Transformation is well planned, and science and technology take the lead. At the time of the three major transformations of the group's organizational transformation, strategic transformation and digital transformation, in order to solve and match the four pain points of ""strategy and implementation, operation and tracking, decision-making and information, performance and evaluation"", we will shape a CP Group intelligent brain integrating information center, monitoring center, decision-making center and command center, and form a digital warroom platform that supports the group's three major transformations.
Follow the instructions of Mr.Dhanin, CP Group senior chairman, on the 4.0 industrial upgrading of industrial capabilities and the requirements of the chairman of Mr. Soopakij Chearavanont group on being the world's largest food and beverage supplier and the world's largest food and beverage channel provider, under the leadership of Mr. Yang Xiaoping, Senior Vice Chairman of CP Group and CEO of China Area, Mr. Xie Yi, Senior Vice Chairman of CP Group, Mr.Paisan Youngsomboon, CFO of China Area, Dr.Wiboon Masuchun, Chief Digital Officer, and Mr.Zheng Lingyun, Vice Chairman, Warroom data center, as the backbone system of the group's I-shaped architecture, breaks silos and integrates industrial chain information, Dismantling the strategic objectives to the responsible person, connecting the world to the ground, focusing on building a digital and visual war room system, realizing that people are doing, the cloud is looking, and the business operation is open and transparent through real-time transparent and visual inspection, so as to truly become a nerve hub connected to the world. At the same time, the war room data center continues to iteratively evolve the war room system, so as to continuously promote the realization of the group's digital management and the integration of human, industrial and financial data, The development of the four in one model of upstream and downstream.
The project was launched in May 2019. Relying on the achievements of the group's informatization construction for many years, the Warroom data center and the finance and

enterprise center collaborated to form data into data assets through algorithmic computing power. After more than two years of efforts, the Warroom platform has been independently built and a strong supporting operation system has been established. The operation team composed of business experts, financial experts and data scientists provides support for decision-making through professional analysis, whole process tracking and monitoring There are plans for action and tracking for implementation. At the same time, empower the front line, change the thinking of operation and management, realize a new mode of digital enterprise management from control to empowerment, and change passive management into self-driven digital operation and management of fully empowered enterprises.

As of November 2021, it has completed the independent research and development of 12 large battle room electronic screens, covering eight core business lines such as such as seeds, feed, broilers, swain, laying hens, aquatic, planting, biochemical, investment, lotus, fresh mart, e-commerce, imported fruit, drinking water, honey, and car rental business; Independently develop pad and app, and connect all R & D platforms at the same time, forming an organic whole with data homology, unified security system and linkage of use scenarios. Support the decomposition of strategic objectives and continuously track the achievement of strategic objectives; Timely track and warn the profit and loss of the business, trace the cause to the person, and issue a standardized plan to accurately push it to the responsible person; We decompose performance objectives to people for tracking, empower and assess talents, and improve personnel efficiency; It uses advanced scientific and technological means such as big data, AI, IOT and voice recognition to empower the management and daily operation of production areas and war zones, and uses a digital and intelligent system to coordinate production and marketing, continuously track logistics information, complete refined project management, timely warn business problems, and help business standardization; Real time real-time monitoring of the operation of buildings and timely biological epidemic prevention. The average monthly visits of the war room platform reached 10588, enabling 12 business lines, reducing 1645 human costs every year, and achieving an IRR of 77.89%.

Warroom helped the steady development of the group's business. In terms of business strategy, it helps the group to build a long-term sustainable competitive advantage in the whole industry chain and produce high-quality, high-quality, safe and hygienic food and beverage products. In terms of operation and management, we will further promote digital transformation and empower production and theater teams to achieve ""intelligent operation and management, digitalized process operation, refined channel construction and personalized customer service"". At the same time, through digital services, we continue to upgrade the experience of end customers, accelerate the spillover of technology empowerment, help the group's business grow, serve the national economy and the people's livelihood, and benefit the country and the people.

数字与信息技术摘要写作示例

Example of Abstract Writing in Digital & IT

利用命名实体识别与机器阅读理解算法解析非结构化文本数据

Zhang Chen, Heng Lu
Shanghai Zhengyuan Computer Technology Co., LTD

了解消费者对食品属性（食材、食品口味、适用人群、商品功能、厂家宣传的商品卖点等）的喜爱程度以及未来趋势，对于集团的营销和生产部门都非常重要。这些属性往往隐藏在各类商品描述和消费者的评价中。新型食材、网红口味、层出不穷的功能以千变万化的宣传卖点，使得提取商品属性的任务更加艰难。仅依据调研的经验判断不再适用,而技术层面，传统的文本匹配技术也无法满足。因此，我们利用自然语言处理技术设计了一套从海量数据(包括各大电商平台、社交媒体、公开网站等)中自动获取商品各类有效属性信息的算法。 本队提出用命名实体识别（NER, Named Entity Recognition）技术从来自海内外各大电商平台、社交媒体、公开网站的海量商品信息中提取食材、口味、适用人群等三类信息。使用庞大的预训练模型+垂直领域的微调，设置食材、口味、适用人群等三类标签，用 Roberta+CRF（Conditional Random Field）对商品名称和商品描述进行文本分类，提取出三类标签。基于 Transformer 的 Roberta 算法可以很好地识别出一些甚至人工都不易区分的实体。此外，对于商品功能和宣传卖点，由于这一类文字通常较长，本队使用机器阅读理解(MRC, Machine Reading Comprehension) 中的 Span Extraction 任务直接从文本数据种提取答案，使用两个 Transformer 模型分别对包含功能和卖点信息的文本数据和问题进行特征提取，再使用 Attention 对问题和文本数据进行交互，并最终对答案进行预测。 通过这一类方法，可以准确高效地从非结构化文本数据中提取出我们关注的商品属性。这些属性可以帮助我们了解到商品的目标人群、消费者的偏好、未来的商品趋势。帮助生产部门研发广受欢迎的食品，帮助销售部门提高销量和利润。

Parsing Unstructured Text Data Using Named Entity Recognition and Machine Reading Comprehension Algorithms

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Knowing consumers' preference for food attributes (ingredients, flavors, applicable groups, product functions, product claims promoted by manufacturers, etc.) and future trends is very important for both marketing and production departments in CP group. These attributes are often hidden in various commodity descriptions and consumer evaluations. Expert experience and traditional text matching technology are no longer applicable due to a variety of new ingredients and internet celebrity flavors, ever-changing functions and claims of products. Therefore, we use Natural Language Processing technology to design a set of algorithms to extract various attributes of products from a large amount of unstructured text data (including item names, product descriptions, and review data on major e-commerce platforms, social media, and public websites.). Our team proposed to use Named Entity Recognition technology to extract ingredients, flavors, and applicable

groups from massive commodity information in major e-commerce platforms, social media, and public websites. We use transformer based Roberta + CRF (Conditional Random Field) to classify these labels which can well identify some entities that are not easily distinguishable by humans. As for long attributes like product functions and claims, we use the Span Extraction task in MRC(Machine Reading Comprehension) to directly extract from text data. We use Transformer models to extract features from document (product name and description which contains product functions and claims) embedding and question embedding (such as “What are the functions of the product?” or “What are the benefits of the product?”). Then we use Attention to interact with the question and text data. And finally we predict the answer. Through this type of method, the product attributes we care about can be extracted from unstructured text data accurately and efficiently. These attributes can help us understand the target group of products, consumer preferences, and future product trends which can help production department to develop popular food products and sales department to increase sales and profits.

AI 智能定价

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集团的零售商在做商品定价的时候，现阶段只是简单按照成本和一定的利润来定价，并没有把集团的海量历史销售数据利用起来。当前在变价的过程中，因为市场价格波动，也不能及时根据成本，修定商品价格。此外，定价员天天改价改到手抽筋，工作量巨大，而且人工操作还容易出现纰漏。同时定价是长尾问题，人工定价只能估计重点商品，忽略长尾的商品。因此，开发一个快速又智能的定价方式十分重要。 我们开发的 AI Pricing 解决方案，可以帮助每个定价员进行端到端的价格管理，管理者可以选择最大化销售或利润，包括：管理定价策略/规则，在位置级别查看产品的主数据和元数据（例如价格，成本，利润）；设计并尝试 what-if scenarios，查看假设定价以及预测的销售和利润提升； 实施定价计划并将定价推向门店； 查看实际结果，系统会将实际结果推送至价格引擎，以完成反馈循环。 AI pricing 中最核心的优化模型是一个数学程序，它可以计算需求在不同价格水平下的变化情况，然后将这些数据与成本和库存水平信息相结合，给出最大化销售或利润的价格。当前我们已经提交了两个商品价格优化方面专利。 AI pricing 可以降低定价的难度，它自动根据海量数据给出最优的价格。根据经验，一个 AI pricing 工具可以给年利润带来 1%-2%的提升。

AI Pricing

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When the CP Group's retailers are pricing their products, at this stage they simply set prices based on costs and certain profits, and they have not used the group's massive historical sales data. In the current process of price changes, due to market price fluctuations, it is impossible to revise commodity prices based on costs on time. In addition, the workload is huge if the price manager needs to change the price every day, and the manual operation is also prone to errors. Furthermore, pricing is a long-tail issue. Manual pricing can only estimate key products and ignore long-tail products. Therefore, it is very important to develop a fast and smart pricing method. The AI Pricing solution developed by us can help every price manager to carry out end-to-end price management, and managers can choose to maximize sales or profits, including: Manage pricing strategies/rules, view the product master data and metadata at the location level (such as price, cost, and profit etc.); Design and try what-if scenarios, check hypothetical pricing and forecast sales and profit increases; Implement pricing plans and push pricing to stores; Review the actual results, the system will push the actual results to the price engine to complete the feedback loop. The core optimization model in AI pricing is a mathematical program that can calculate the changes of demand at different price levels and then combine these data with cost and inventory level information to give a price that maximizes sales or profits. Currently, we have submitted two patents on commodity price optimization. AI pricing can reduce the difficulty of pricing. It automatically gives the best price based on massive data. According to experience, an AI pricing tool can increase annual profits by 1%-2%.

HoReCa B2B AI 工具

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正大集团的许多零售方现在做 B2B 生意，即以现有门店为基础开发 B 端客户。在这个开发过程中，销售人员和相关主管如何更好的在维系现有客户的同时发掘新的客户，是一个很大的挑战。以前销售人员的策略有相应的缺点： 策略 1：地推，直接去门店拜访，缺点：缺少对客户的先验知识； 策略 2：到网络上找寻信息，先电话拜访，缺点：虽然有一定的先验知识，但是寻找本身会消耗时间，不够精准； 策略 3：使用第三方提供的数据，缺点：这些第三方数据有滞后和局限性，并且涉及到我们的数据安全，不能提供我们的数据给第三方，不能深度定制。 基于我们 BU 的实际情况，我们开发了 HoReCa Tool，我们会收集公有数据并结合集团的私有数据，利用 AI 技术来提供以下四个主要功能： 查找某

家门店附近 5KM 范围内的 B 端店铺；找到这些店铺中正大的潜在客户，挖掘客户的食材需求，精准地向其销售食材；了解这些客户需要食材的比例、需求量、带来的潜在收益分别是多少；了解哪些食材是客户需要但是我们没有销售的。 这样我们可以了解门店周边商家的基础信息，了解客户的需求，挖掘潜在客户，并可以做品类优化。 当前我们的 HoReCa Tool 在中国的各个大区都开始使用，并不断接收来自业务方的反馈进行升级。HoReCa 可以提高 B2B 销售人员的效率和成单率，从而降低人员成本，提高销售业绩。

HoReCa B2B AI Tool

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Many retailers of CP Group are now engaged in B2B business, that is, developing B-end customers based on existing stores. In this development process, it is a big challenge for sales staff and related supervisors to better maintain existing customers and discover new customers. The previous salesperson's strategy had corresponding shortcomings: Strategy 1: Salesperson go directly to the store to visit. Disadvantage: lack of prior knowledge of customers; Strategy 2: Looking for information on the Internet and call first. Disadvantages: Although there is a certain amount of prior knowledge, the search itself will consume time and is not accurate enough; Strategy 3: Use data provided by vendors. Disadvantages: These third-party data have lags and limitations. Also, Due to data security. We cannot provide our data to third parties and cannot be deeply customized. Based on the actual situation of our BU, we have developed the HoReCa Tool. We will collect public data and combine the group's private data, using AI technology to provide the following four main functions: Finding the B-end store within 5KM of a store; Finding the potential customers of CP in these stores, to explore the customers' food needs, and sell them accurately; Understanding the proportion of ingredients, demand, and potential revenue brought by these customers; Knowing which ingredients are needed by customers but we have not sold them yet. In this way, we can understand the basic information of businesses around the store, understand customer needs, tap potential customers, and optimize category. At present, our HoReCa Tool is being used in all regions of China, and we continue to receive feedback from the business side to upgrade. HoReCa Tool can improve the efficiency and order rate of B2B salesperson, thereby reducing personnel costs and improving sales performance.

基于客户订单的猪肉屠宰分割生产计划研究

Sun hua, Li Zanwen
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猪肉屠宰分割是猪肉食品生产供应链中的重要一环。如何利用客户的订单信息，进行合理的屠宰分割，一直是猪肉生产企业关心的问题。因为合理的屠宰分割不仅可以降低猪肉生产成本，提高企业利润，而且增加猪肉食品的新鲜度，减少猪肉生产过程中质量损耗。本文基于客户订单等信息，通过考虑不同等级客户订单满足率限制、可用白条库存数量限制、白条分割鲜销率、不同工艺和进程下的分割重量限制等因素，构建以客户订单满足率、用于分割白条数量、生产数量与订单数量之间差异，订单分配的利润为目标的考虑客户订单下的猪肉屠宰分割优化模型，模型被描述成混合整数线性模型，通过调用优化商业求解器 GUROBI 求解。 最后，基于襄阳屠宰厂的实际生产数据的数值算例被用来证实提出模型可以用来为猪肉生产企业生产提供决策建议和指导。

Research on Production Planning of Pork Slaughtering and Cutting Based on Customer Order

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Pork slaughter and cutting are an important component in the supply chain of pork food production. How to make use of customer's order information to conduct reasonable slaughter and cutting has always been a concern of pork production enterprises. Because reasonable slaughter and cutting can not only reduce pork production costs and increase corporate profits, but also increase the freshness of pork food and reduce quality loss in the pork production process. This paper develops a mixed-integer multi-objective optimization model accounting for the limitation of the order fulfillment rate of different levels of customers, available carcass inventory, the carcass fresh sale rate, the first cutting of order fulfillment rate, and the weight of carcass under different technology and process based on the customer orders. The objective of model includes the order fulfillment rate, the amount of pork used for cutting, the difference between the order and produce, and the profit on order produce. The model is formulated as a mixed-integer linear programming, which is solved by commercial software Gurobi. Finally, numerical examples based on the actual production data of Xiang Yang Slaughter Plant are set up to demonstrate the performance of the proposed model and can be used to provide decision-making advice and guidance for pork production enterprises.

生猪屠宰分割正大 4.0 项目（IOT 系统）

Ren Yuzhe
CP Group Foods (Xiangyang) Co., Ltd.

正大食品（襄阳）有限公司是正大集团于 2014 年 3 月 13 日在湖北省襄阳市投资的现代化大型食品加工企业，隶属于正大襄阳百万头生猪产业链项目的终端工业项目。公司集生猪屠宰分割、肉制品精深加工（调理制品、中式酱卤、腌腊制品等）、副产品综合利用、物流仓储及科研开发为一体，可年屠宰生猪 100 万头，年加工调理产品 3 万吨，年生产熟肉制品 10 万吨. 正大食品（襄阳）有限公司的屠宰和分割车间采用国际最先进设备生产商荷兰 MPS 提供的全套流水线设备，在当今国内国际的专业屠宰及分割设备制造领域中，处于领先地位。 为了建设成襄阳百万头生猪全产业链屠宰工业 4.0 项目物联网项目， 前期调研了加拿大 CARLISLE、德国 CSB 以及 MAREL 等几家在屠宰和食品加工方面的世界知名软件系统研发商，最终集百家之长，利用先进技术，通过不断技术创新，自主研发了屠宰和食品加工 MES 系统：eWork. 具有自主知识产权的 eWork 系统价值，包含了： 1、提升管理，为管理者决策提供有价值的、准确的、及时的数据分析。 2、通过 RFID 技术，传感器设备，与生产设备和仪器链接，实现自动采集生产数据； 3、实现食品生产全过程可追溯信息； 4、毛猪屠宰完成，实时结算毛猪收购金额、以及屠宰数据分析报表； 5、减少车间和办公室统计人员，降本增效； 6、提供数据给配种中心，为种猪改良育种； 7、系统不仅有完全的软件著作权，而且还申请了发明专利和实用新型专利； 在襄阳上线成功后，系统继续推广到正大食品（徐州）有限公司， 洛阳正大食品有限公司，以及 eWork 的 OEM 版为更多的加盟 OEM 小型屠宰厂提供软件服务。

Pig Slaughter and Segmentation of CP 4.0 Project (IOT System)

Ren Yuzhe
CP Group Foods (Xiangyang) Co., Ltd.

CP Group Foods (Xiangyang) Co., Ltd. is a modern large-scale food processing enterprise invested by CP Group in Xiangyang City, Hubei Province on March 13, 2014. It belongs to the terminal industrial project of the CP Group Xiangyang Million Pig Industry Chain Project. The company integrates pig slaughtering and segmentation, deep processing of meat products (prepared products, Chinese sauces, cured products, etc.), comprehensive utilization of by-products, logistics and storage, and scientific research and development. It can slaughter 1 million pigs annually and process 30,000 prepared products annually Tons, with an annual production of 100,000 tons of cooked meat products. The slaughter and segmentation workshop of CP Group Foods (Xiangyang) Co., Ltd. adopts a full set of assembly line equipment provided by the international most advanced equipment manufacturer Holland MPS and is in a leading position in the field of professional slaughter and segmentation equipment manufacturing at home and abroad. In order to build the Internet of Things project into the slaughtering industry 4.0 project of the whole industrial

chain of one million pigs in Xiangyang, we investigated several world-renowned software system developers in slaughtering and food processing, including CARLISLE in Canada, CSB in Germany and MAREL in the early stage. For its strengths, using advanced technology, through continuous technological innovation, we independently developed the MES system for slaughter and food processing: eWork. The eWork system with independent intellectual property rights includes: 1. Improve management and provide valuable, accurate and timely data analysis for managers to make decisions. 2. Through RFID technology, sensor equipment, and production equipment and Now automatically collect production data; 3. Realize traceable information in the whole process of food production; 4. The wool pig slaughter is completed, the real-time settlement of the wool pig purchase amount and the slaughter data analysis report; 5. Reduce statistic personnel in workshops and offices, reduce costs and increase efficiency; 6. Provide data to the breeding center for improved breeding of pigs; 7. The system not only has complete software copyright, but also applied for invention patents and utility model patents; After the successful launch, the system continued to be extended to other CP Group Companies & OEM small slaughterhouses.

农业全产业链服务平台

Liu Ruo Ting
Middle and South Area

基于互联网+农业的时代发展，根据集团资深董事长谢国民关于正大 4.0 的产业升级要求，为解决养殖客户在技术、资金、人才和市场四方面的痛点，项目协同集团和社会资源，搭建“互联网平台+农业服务公司”的农业全产业链服务平台——“猪博士”，应用于养殖生产、饲料猪只销售、金融服务等场景中。此项目的创新价值在于借助移动互联网、大数据分析等现代信息技术手段，结合正大集团强大的线下技术服务团队和社会行业资源进行换道超车，打造全新的商业模式，从而吸引更多产业链各利益相关者加入到正大农业服务生态圈，达到可持续化的稳健发展，契合利国、利民、利企业原则。项目于 2018 年 6 月正式立项，建立以周永顺资深副董事长为组长、杨森源财会长为副组长的跨区域、跨业务部门的集团大协同组织架构，并于 2018 年 11 月 1 日正式启动项目。经过业务需求调研、流程讨论、设计开发及项目试点，系统在 2019 年 5 月在大区全面上线推广。平台包含养殖生产管理、课堂培训、饲料销售和猪只交易、在线资讯和价格行情、兽医咨询、金融服务等多个板块。截至 2020 年 6 月，平台已有交易用户 5300 多名，实现饲料线上交易金额 42.7 亿元，活跃用户 13000 名左右。 “猪博士”农业全产业链服务平台，协同集团和社会资源，构建农业 4.0 时代下的智慧农业生态圈，打造强势品牌。我们把客户的猪回收过来，再进入正大食品下游的生态，从而支持下游百万餐饮生态圈的建立，两者链接起来构建中国有质量、安全的食品生态圈，打造线上、线下并贯穿上下游的安全可追溯体

系。项目依托互联网信息技术平台，借助移动互联、云计算、大数据等信息技术手段构建现代农业服务平台，解决信息封闭、一流资源共享、供求公开优化等痛点；同时充分利用大区线下技术服务团队和行业资源，为客户在技术推广执行、资金协调落实、人才派遣对接、市场产销对接等方面解决客户的痛点。将线下优势资源与互联网平台相结合，把产业链所有相关利益方纳入农业生态圈，从而提高服务质量和服务效率，增强客户粘性，并不断吸引新客户，让参与各方受益，最终达到覆盖所有客户、全方位服务客户目的。 项目具体实现方式是基于正大科学养殖模式、结合市场领先的 IT 技术手段，进行的全新商业模式的再造，主要包含： （1）凭借国内最大的养猪 SAAS 平台进行养殖生产管理——猪管理； （2）用互联网方式解决买料难和卖猪难的问题，实现产销对接——饲料和猪只交易； （3）结合区块链技术，基于农业大数据的场景提供金融服务——猪金融； （4）围绕猪场提供一站式服务，形成产业链闭环——猪服务。 通过服务平台，将现有集团资源与集团内外资源结合，共同服务客户，协同共享，实现可持续性发展。 猪博士系统已成功获得国家计算机软件著作权登记证书

Agricultural whole industry chain service platform

Liu Ruo Ting
Middle and South Area

Based on internet and agriculture development trend,and CP 4.0 industry upgrading requirement by Group Senior Chairman Dhanin Chearavanont，aiming to solve farmers' pain points in breeding technology,financing,talent and market,the service platform "Dr. Pig"for agricultural integrated value chain in animal production,feed and pig sales as well as financial service is built up by combining the internet platform and agriculture service companies. The project innovation lies in integrating the advanced IT, big data analysis,strong off-line technical service team of CP Group and social resources,like changing to an overtaking lane by building a brand new business mode which absorbs more stakeholders in CP agricultural ecosystem ,realizes sustainable development and fulfills the Three-Benefit Principle. The project initiates in Jun,2018 with an cross-districts&business lines organization structure lead by SVC Zhou Yongshun and CFO Paisan Youngsomboon as vice leader and formally starts on Nov 1,2018.After need surveys,procedures discussion，design development and pilot run,the system runs in the whole district from May,2019.The platform includes production management,training,feed sales and pig transaction,on-line information and market price,vet consultancy and finance.As of June,2020,the platform has 5300 transaction users with turnover of feed sales on line of 4.27 billion and 13000 active users. Based on CP scientific breeding mode and advanced IT technology,the project reconstructs a brand new business mode by implementation methods as following (1) Production management by the largest domestic pig farming platform, SAAS- production management;(2)Use the internet to the solve difficulties in buying and selling feed and realize production and marketing docking -

feed and pigs transaction;(3)Combine block chain technology to provide financial services based on agricultural big data - financing; (4)Provide one-stop service and form a closed loop of industrial chain - service. Through the service platform, the existing Group resources are combined with external resources to serve customers by synergy and sharing and finally achieve sustainable development.

通过高光谱图像监测屠宰线猪肺的病变程度

Dr. WANG Kailao
Beijing Headquarter

猪呼吸道疾病在猪养殖过程中很常见,且影响猪的生长。兽医可通过观察猪肺分析比较各个猪场的空气质量和管理水平，总结经验并指导猪场提高养殖管理水平。由于人工对猪肺进行观察评级耗时耗力、数据整理和分析不及时，且结果有较强的主观性，不利于大规模复制。因此，屠宰过程中对猪肺的病变程度进行自动分级和统计分析有巨大的作用。本项目将验证里高光谱成像系统在猪肺的病变程度进行自动分级的可行性。我们正在分析静止情况下拍摄的猪肺高光谱照片，希望通过选取特征波段的融合图像，提出图像预处理、分割和机器学习算法，实现对病变程度分级准确率大于 90%。在验证可行性后，将来会把本系统进一步移植到在实际屠宰线上，服务于生产。

A Lung Lesion Grading System Based on Hyperspectral Image Processing

Dr. WANG Kailao
Beijing Headquarter

Respiratory disease is prevalent in pig farms and will lead to reduced productivity. Vets can score the lungs in front of the slaughter lines with bare eyes. The results can reveal and then be used to improve the air quality and the management ability of different pig farms. However, the manual evaluation method is not easy to widely implement because the results are prone to be subjective and the job is labor and time intensive. Therefore, it is quite important to automatically monitor and analyze the lung lesion level on slaughter lines. This project aims to evaluated the feasibility of lung lesion severity monitored by hyperspectral image processing technology. The test will start from the simplest scenario. The hyperspectral images of lungs on a tray have been captured. We are going to select the appropriate spectral wavelengths from the hyperspectral image cube to synthesize fusion images. Following with image preprocessing, correction, segmentation, and machine learning, our goal is to reached the accuracy higher than 90% compared with experts'

decision. After the feasibility analysis of the static scenario, we are going to implement the system on the slaughter line and test the performance in production.

可持续性摘要写作示例

Example of Abstract Writing in Sustainability

山西大同“四位一体”产业扶贫项目

面对农业工业化加速推进、农业人口面临巨大市场压力，正大畜禽大同 30 万头猪全产业链产业扶贫项目是集团积极探索产业扶贫投融资创新模式和产业组织创新模式的成功典范，项目采用“政府+正大+银行+贫困户”的四位一体模式，按照"绿色发展、绿色生活"的理念，引进正大集团世界领先的系统技术与设备、完整的全产业链模式和双绿色循环经济发展模式，建立了精准扶贫的长效机制。

该项目为阳高县及周边地区农牧业的转型升级和脱贫攻坚提供了有益的示范。项目集饲料加工、猪养殖、销售、屠宰及猪肉加工销售于一体，打造了从源头到餐桌的全产业链食品安全保障体系，有效提升了国内猪养殖行业的技术装备水平。养殖环节的每个过程均没有废弃物产生，形成了农业系统的生态良性循环，实现了现代化农业的可持续发展。

一期 15 万头生猪养殖 2019 年 1 月投产至今，最高单年（2020 年）费前利润为 2.38 亿元人民币，累计扶贫收益 1.18 亿元人民币；项目荣获国家级畜禽养殖标准化示范场和市级十大畜牧标杆企业称号；获得政府扶贫奖励累计 300 万元人民币；取得进京、进沪猪产品销售资格，并将产出的优质猪肉输向太原市、大同市及更广阔的省内市场。

“Four-in-one” industrial poverty alleviation project in Datong, Shanxi

In the face of accelerating agricultural industrialization and huge market pressure on the agricultural population, the Chia Tai livestock and poultry Datong 300000 head industrial chain industrial poverty alleviation project is a successful example of the Group actively exploring the industrial poverty alleviation investment and financing innovation mode and the industrial organization innovation mode. The four-in-one model of "Government + Chia Tai Group + Bank + Poor Household", in accordance with the concept of "green development, green life", introduces the world-leading system technology and equipment of Chia Tai Group, a complete whole industry chain model and a dual-green circular economy development model , and established a long-term mechanism for targeted poverty alleviation.

The project provides a useful demonstration for the transformation and upgrading of agriculture and animal husbandry and poverty alleviation in Yanggao County and its surrounding areas. The project integrates feed processing, pig breeding, sales, slaughtering and pork processing and sales into one, creating a food safety guarantee system of the whole industrial chain from the source to the table, and effectively improving the technical equipment level of the domestic pig breeding industry. No waste is produced in each process of breeding, forming a virtuous ecological cycle of agricultural system and realizing the sustainable development of modern agriculture.

Since the first phase of 150,000 live pigs breeding was put into operation in January 2019, the highest pre-fee profit in a single year (2020) is 238 million yuan, and the cumulative poverty alleviation income is 118 million yuan. The project won the title of national livestock and poultry breeding standardization demonstration farm and municipal top ten animal husbandry benchmark enterprise; A total of 3 million yuan has been awarded for poverty alleviation by the government; It has obtained the sales qualification of pig products in Beijing and Shanghai, and exported the high quality pork to Taiyuan, Datong and the broader provincial market.

卜蜂莲花“粉红春天”公益慈善

卜蜂莲花南区

蜂莲花南区董事长李闻海先生出于对天下母亲的感恩之心，特别作画并题词“妈妈把青春留给我，把岁月留给自己”，并以在此画为灵感建造了“恩”雕塑，对儿童们进行感恩孝道教育。

从 2009 年开始，卜蜂莲花南区开展以感恩和关爱为主题的“粉红春天”项目，联合广东省妇联创办“粉红春天关怀基金”，帮助贫困妇女获得“两癌”（乳腺癌和子宫癌）检查和治疗机会，共筹集善款过千万，帮助超过 5000 名妇女进行“两癌”检查，其中 103 人发现癌症，及时治疗后病情好转。

卜蜂莲花南区关爱儿童健康成长，为儿童们开展一系列素质教育活动，包括感恩孝道教育，传承传统文化，培养环保理念，等等。从 2017 年起，卜蜂莲花南区为超过 10 万名儿童开展素质教育活动。

CP Lotus Spring Pink Charity

CP Lotus South

Mr. Li Wenhai, Chairman of CP Lotus South in China, has drawn picture for showing the gratitude to the mothers. The corresponding curve is defined as a pregnant woman and a humpback old woman. This can point out the life span of women with a poem that says “Mother had given me her youth, but keeping the ageing with herself.” A statue named “Gratitude” was built for educating the children to show gratefulness and filial piety.

In 2009, C.P. Lotus south created “Spring Pink” project with the theme of “Gratitude and Care”, and worked with the Guangdong women’s Federation establish a “Spring Pink Care Fund” to raise funds for helping underprivileged women, providing an access to two

cancer's screening (Cervical cancer and breast cancer). The fund had raised more than 10 million RMB. There are more than 5000 women receiving cancer screening, and over 103 people suffering from cancer, have received treatments and been healed.

C.P. Lotus South cares for the healthy growth of children, by arranging quality-oriented education activities for them, including gratitude and filial piety education, traditional Chinese culture education, environmental protection awareness education, etc. Since 2017, CP Lotus south has carried out quality-oriented education activities for more than 100,000 children.

吉林中新-大爱无疆正大人

Wang Yang
Jilin Sino-Singapore CP Co., Ltd.

农村贫困留守儿童较多，孤寡老人生活困难，贫困户无生活保障。双减政策下部分家长无法辅导孩子学习。

作为一名军嫂我愿舍小家为大家。带动同事为员工捐款 3 万余元；加入爱心妈妈协会收留两名贫困儿童；资助一位无父无母，品学兼优的孩子，每月为其送去 500 元的生活费；为孤寡老人送去生活必须品，带动身边的人对其捐赠物资价值 50000 余元，关注五户贫困家庭；创立国学课堂，为 500 名孩子提供免费学习的机会。

在我的努力下两名留守儿童能够正常就学且感受家庭温暖；三位孤寡老人老有所依靠；五户贫困家庭保证顺利就医及基本生活保障；500 名学生获得免费的教育服务。

Jilin Sino-Singapore - Great Love Without Borders

Wang Yang
Jilin Sino-Singapore CP Co., Ltd.

There are many poor left behind children in rural areas, the elderly living alone are difficult, and the poor households have no living security. Under the double reduction policy, some parents are unable to help their children with their studies.

As a military sister-in-law, I would like to give up my family for everyone. Drive colleagues to donate more than 30000 yuan to employees; Joined the caring mothers association to take in two poor children; Subsidizing a child who has no father or mother and is excellent in character and learning, and sending him 500yuan of living expenses every month; Send necessities for the elderly, drive people around to donate more than 50000 yuan to them,

and pay attention to five poor families; Established a Chinese learning class to provide free learning opportunities for 500 children.

With my efforts, the two left behind children can go to school normally and feel the warmth of their families; The three widowed old people have something to rely on; Five poor families have guaranteed smooth medical treatment and basic living security; 500 students received free education services.

内蒙古正大“打造幸福企业 营造爱家文化”员工关爱项目

Yang ping, Jiang Xiuyan
Inner Mongolia Zhengda Co., Ltd.

公司开展各类员工及家属关爱活动，员工和家属感知公司的关爱后，积极将这份爱回馈予社会，实现集团事业在内蒙古的可持续发展。

公司以践行集团价值观，贯彻落实“尊重人才、培养人才、为人才营造和谐工作环境”的人才发展理念，围绕建设和谐工作环境、成立员工关爱委员会、提升员工身心体验、注重员工家属关怀等开展各类员工关爱活动。

该项目实施后员工及家属的满意度提升 5%，员工离职率为北方区最低，且企业效益逐年上升，2021 年荣获集团中国区竞赛综合业绩全国排名第一名。先后荣获”幸福企业最佳实践单位”“新时代企业文化优秀单位”“爱心企业”等称号，实现企业可持续发展。

Inner Mongolia Zhengda "Create a Happy Enterprise, Create a family Culture" employee care project

Yang ping, Jiang Xiuyan
Inner Mongolia Zhengda Co., Ltd.

The company carries out various care activities for employees and their families. After employees and their families feel the care of the company, they actively return the love to the society and realize the sustainable development of the group business in Inner Mongolia.

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love to the society and realize the sustainable development of the group business in Inner Mongolia.

After the implementation of the project, the satisfaction of employees and their families increased by 5%, the employee turnover rate was the lowest in the northern region, and the enterprise benefits increased year by year. In 2021, the company won the first place in the comprehensive performance of the Group's competition in China. It has won the title of "Happy Enterprise Best Practice Unit", "New era Enterprise Culture Excellent Unit" and "caring enterprise", etc., to realize the sustainable development of the enterprise.

猪粪水改良盐碱地

Huang Chengjun, Yun Xia
Inner Mongolia Chia Tai Food Co., Ltd.

中国是盐碱地大国，其中 5 亿亩具有开发利用价值，盐碱地开发利用对保障中国粮仓、中国饭碗有重要作用。目前，改良盐碱地的方法费用高、周期长、效果一般。

该团队利用养殖场产生的猪粪水，经过生物发酵后均匀施入盐碱土地，粪水中的“有机质”和 “微生物”很好的解决了盐碱地中的“盐”和“碱”带来的土壤板结、保水性差、种子无法发芽、死苗、作物营养不良等问题。

经过猪粪水改良的闲置盐碱地实行了 229Kg/亩的玉米产量，为农民实现了 150 元/亩的增收，为国家的粮食安全提供了保障。

Improvement of saline-alkali soil by pig manure.

Huang Chengjun, Yun Xia
Inner Mongolia Chia Tai Food Co., Ltd.

China is a big country of saline-alkali land. Among them, 500 million mu has development and utilization value. Development and utilization of saline-alkali land to protect China’s granary and Chinese rice bowl. Play an important role. At present, the method of improving saline-alkali soil has high cost, long period and general effect.

The team used pig manure from the farm. After biological fermentation, it was applied evenly to saline-alkali soil. The organic matter and microorganism in the wastewater can solve the problem of soil hardening and poor water-holding capacity caused by salt and alkali in saline-alkali soil. Unable to germinate, treat crop malnutrition and other problems.

After pig manure, water, improved idle saline-alkali land to achieve 229 kg per mu. Maize yield for farmers to achieve 150 yuan per mu of income for the country's food security.

疫情保供，社区直配

Zhang Jin
C.P. Food (Hubei) Co,.Ltd.

2020 年初，武汉市爆发新冠疫情。为防止疫情扩散，武汉市政府决定对武汉进行“封城”管控，广大武汉市民和数以万计的医护人员、患者的生活物资供应出现危机。为贯彻正大集团“利国利民利企业”的经营理念，体现正大集团高度的社会责任感，周永顺资深副董事长亲临疫情一线坐镇指挥，决定利用集团在湖北地区的猪肉、鸡肉、鸡蛋等产业链和自建物流体系的优势，为武汉乃至湖北省“疫情保供”做出贡献！

人员方面，正大集团湖北区动员了所有在汉员工，鼓励干部和党员成立“疫情保供党员先锋队”，先后有百余名党员加入到疫情保供工作中来。车辆方面，积极与省市县三级政府联系，取得了超过 3000 张的疫情通行证。渠道方面，在原有销售渠道因疫情暂时停止的情况下，迅速开发了“社区团购”平台，使得小区居民实现了线上下单、公司直配社区的“无接触配送模式”。疫情防控方面，坚持早晚测量体温，每天健康情况汇报；坚持配送人员单独居住；坚持分餐制；坚持固定车辆、固定司机、固定线路、固定客户的“四固定”车辆管理模式，确保了司机在配送过程中“零感染”。

通过“疫情保供，直配社区”项目，正大集团湖北区在疫情期间成功转为危机，整个项目在疫情期间为 50 家医院、3000 个小区、34 万个家庭提供了近 2 万吨正大食品。让正大食品在湖北地区获得了广大消费者的高度认可。同时物流体系在原有基础上的到了快速发展，探索出了新的终端销售模式，为疫情过后正大食品在湖北地区的市场占有率不断提升奠定良好的基础！

Guarantee supply during epidemic，direct distribution to community

Zhang Jin
C.P. Food (Hubei) Co,.Ltd.

At the beginning of the year 2020, COVID-19 epidemic broke out in Wuhan. To prevent the spread of the epidemic Wuhan took measures to blockade the city，there is a crisis in the supply of daily necessities for the broad masses of Wuhan citizens and tens of thousands of medical staff and patients. To implement the management concept of "benefit the country, benefit the people and benefit the enterprise" of CP Group, and reflect the high sense of social responsibility of CP Group. SVC Zhou Yongshun personally

came to the front line of the epidemic to take command，decided to make use of the advantages of the group's pork, chicken, egg and other industrial chains and self-built logistics system in Hubei，to contribute to the "Guarantee supply during epidemic" in Wuhan and even Hubei Province!

In terms of personnel, CP Hubei mobilized all the employees in Wuhan，encourage cadres and party members to set up "vanguard of epidemic protection for party members"，more than a hundred party members have successively joined in this work. As for vehicles, we actively contact with governments at the provincial, municipal and county levels，obtained more than 3 thousand pass during lockdown of the city. In terms of channels, when the original sales channels were temporarily suspended due to the epidemic situation，the "community group purchase" platform was developed rapidly as a result, the residents of the community have realized the "contactless distribution mode" of online ordering and corporate direct distribution to the community. In the aspect of epidemic prevention and control, insist on taking body temperature in the morning and evening, reporting on health condition every day, insisting on distribution personnel living alone, and adhering to separate meals. Adhere to the "four fixed" vehicle management mode of fixed vehicles, fixed drivers, fixed lines, and fixed customers to ensure that drivers have "zero infection" in the process of distribution.

Through this project, CP Group Hubei District successfully seized the opportunity，during the epidemic outbreak period, this project provided nearly 20,000 tons of CP food to 50 hospitals, 3000 communities and 34,0000 families. CP Food has been highly recognized by most consumers in Hubei area. At the same time, the logistics system has developed rapidly than before，we also explored a new terminal sales model which is community group purchase，which making higher percentage of the market share in Hubei after the epidemic!

呵护星星的孩子 体现正大关爱

Chen luqun, Zhang Yao
Guilin Chia Tai Co., Ltd.

自闭症又称孤独症，是一种儿童广泛性发育障碍性疾病。全球有 3500 万人患有自闭症，这种神经系统疾病已经成为世界上人数增长最快的严重性病症。2007 年 12 月联合国大会通过决议，从 2008 年起，将每年的 4 月 2 日定为"世界自闭症关注日"，以提高人们对自闭症和相关研究与诊断以及自闭症患者的关注。目前我国儿童自闭症发病率达 10%以上，但目前就医的仅仅为其中极少数，很多家庭为了照顾自闭症孩子没有办法正常工作，经济收入低，生活和学习仅靠低保和福利院的免费康复课。桂林市社会福利院康复科于 2008

年 4 月成立，为市级残疾儿童康复救助定点机构，目前 9 个班，87 个学生。主要项目有贫困孤独症儿童抢救性康复训练，提高康训儿童的社会适应能力。
针对自闭症孩子家庭一般都比较困难的情况，建立桂林正大关爱项目，计划每年与福利院共同举行关爱活动，各部门主管、同事一起，带上正大食品，以不同的活动方式融入自闭症孩子的世界，比如一起画一副画，同唱一首歌，做一个欢乐的小游戏，共同品尝正大食品，让星星的孩子能够体会到正大的爱心呵护，品尝到美味的正大食品，让正大和正大食品走向更多的家庭。
自闭症患儿被叫做“星星的孩子”，他们就像天上的星星，在遥远而漆黑的夜空中独自闪烁着。2022 年 4 月 2 日是第十五届世界孤独症日，主题是聚焦孤独症服务，构建社会保障机制，促进服务机构高质量发展，以提高人们对自闭症患者的关注。我们正大集团的愿景是致力于创造物质粮食和精神粮食以及共享的价值观，让所有人健康和幸福，让我们一起关爱自闭症儿童，为星星的孩子点亮一盏爱的灯光。

Take care of the children of stars to pass the love

Chen luqun, Zhang Yao
Guilin Chia Tai Co., Ltd.

Autism, also known as solitude, is a widespread development disorder in children that hinders social interaction. Throughout the world, 35 million people suffer from autism, which has increased rapidly in the number of people in the world. In December 2007, the United Nations General Assembly passed a resolution to designate April 2 of each year as the "World Autism concern day" from 2008, so as to raise people's attention and related research and diagnosis for autism patients. At present, the incidence rate of children with autism in China is more than 10%, but only a very few of them seek medical treatment. Many families have no way to work normally in order to take care of autistic children. Their economic income is very low, and they live and study only on the subsistence allowances and free rehabilitation training in welfare center for children. The rehabilitation department of Guilin Social Welfare Institute was established in April 2008. It is a designated municipal institution for the rehabilitation of disabled children. Currently, there are 9 classes and 87 students. The main projects include rescue rehabilitation training for poor autistic children to improve their social adaptability.

To help the difficult families with autistic children, the love and support project of Guilin Chia Tai Company is established. It is planned to hold care activities with the welfare center every year. Departments managers and colleagues will bring CP food together and integrate into the life of autistic children in different activities, such as drawing a picture, singing a song, playing a happy game, and tasting CP food together. Let the autistic children feel the love and care of our company, and let CP brand and delicious CP food get into more families.

Autistic children are called "children of stars". They are like stars in the sky, flickering alone in the distant and dark night sky. April 2, 2022 is the 15th World Autism day. Its theme is to focus on services, build social security mechanisms, promote high-quality development of service institutions, and improve people's attention to autism patients. Our vision of CP Group is to create material food, spiritual food and shared values to make everyone healthy and happy. Let's take care of autistic children and light a lamp of love for the kids of the stars.

通过种养结合模式实现粪肥的资源化利用

Gao Qingzhen, Zhang Wenbo
Chia Tai (Xiang yang) Livestock Development Co., Ltd.

通过近几年的实践，襄阳农牧自养场周边已基本确定了种植模式：油菜+玉米。通过摸索，确定了沼液施入量 60 吨/亩/年（沼液在上季作物收割后作为底肥亩可施入沼液 20 吨，后期追肥油菜可施用 15 吨/亩，玉米可施用 5 吨/亩）。
实践过程中，施入沼液不均匀，会造成烧苗减产，通过灌溉方式调整：漫灌调整为喷灌，可避免烧苗减产。追肥过程中，纯沼液浇灌也会造成烧苗，要求追肥中沼液与清水 1：2 混合使用。

公司自养场年沼液量 69 万吨，全量深处理需费用 690 万元/年。沼液资源化利用（给予客户 3 元/吨劳务费补贴）可节约费用 483 万元/年（每吨沼液节约 7 元）。农户使用沼液代替化肥可以节约成本 240 万/年，增加收入 450 万/年。使用沼液代替化肥可以改良土壤，保护猪场周边环境，保障农产品质量。

Combination of planting and breeding to realize the utilization of manure resources

Gao Qingzhen, Zhang Wenbo
Chia Tai (Xiang yang) Livestock Development Co., Ltd.

Through the practice in recent years, the planting mode has been basically determined around the self-built farm of Xiangyang Agriculture and Animal Husbandry: rapeseed + corn. Through the calculation of crop fertilizer requirements and actual exploration, the application amount of biogas slurry was determined to be 60 tons/mu/year (The biogas slurry can be applied to 20 tons of biogas slurry as a base fertilizer after the crops of the previous season are harvested, 15 tons/mu of top dressing can be applied to rapeseed in the later period, and 5 tons/mu of corn can be applied.).

In the practice process, uneven application of biogas slurry will cause burning seedlings and reducing yield. Adjusting the irrigation method: flood irrigation is adjusted to sprinkler irrigation, which can avoid burning seedlings and reducing yield. During the top-dressing process, the watering of pure biogas slurry will also cause burning of the seedlings. It is required that the biogas slurry in the top-dressing fertilizer is mixed with clean water at a ratio of 1:2.

The annual volume of biogas slurry in the company's self-supporting farm is 690,000 tons, and the utilization of manure resources can save 4.83 million yuan/year (saving 7 yuan per ton of biogas slurry). Farmers can save 2.4 million yuan/year by using biogas slurry instead of chemical fertilizers and increase their income by 4.5 million yuan/year. Using biogas slurry instead of chemical fertilizer can improve soil, protect the surrounding environment of pig farms, and ensure the quality of agricultural products.

猪胎盘的开发与利用

Wang lei, Hu Huihua
CP. Food (Xiang yang) Co., Ltd.

猪胎盘中含有多种生物活性因子，却未得到充分利用。本项目将低价值的猪胎盘加工成高价值的猪胎盘小分子多肽样品，成为新型保健品、化妆品和药品原料，实现利用率和附加值最大化。我们的创新工艺打破传统的酶解技术，分解过程无菌无污染，分解率高达 95%以上，得到的猪胎盘小分子多肽粉品质高、易吸收，并发表国家发明专利一篇。按照每年 100 万头生猪计算，可获得 12.1 吨猪胎盘多肽粉，收益 6050 万元。此外，我们在提高猪胎盘的利用价值的同时，还减少了环境污染和处理费用，为环保和可持续发展做出贡献。

Development for Product of pig placenta

Wang lei, Hu Huihua
CP. Food (Xiang yang) Co., Ltd.

Pig placenta contains various active factors, but they are not fully utilized. The low-value placenta was transformed into high value small molecule peptide which used as raw material for health products, cosmetics and pharmaceutical, so that we can maximize the utilization and value. Our innovative technology breaks the traditional enzymatic hydrolysis method, the decomposition process is sterile and pollution-free, the decomposition rate is up to 95%, the obtained porcine placenta small molecule polypeptide powder is of high

quality and easy to absorb, thus, we has published a national invention patent. According to the calculation of 1 million pigs every year, 12.1 tons of porcine placenta polypeptide powder can be obtained, with a income of 60.5 million yuan. In addition, while increasing the value of pig placenta, we also reduce environmental pollution and treatment costs, contributing to environmental protection and sustainable development.

正大杯数字创新赛道 - 用科技为农牧零售插上翅膀

Jin Zuo，Huiying Dong
CP Investment Co.,Ltd.

集团数字化转型中，IT 人才储备存在大量缺口。为更好配合雇主品牌的宣传与人才吸引，北京总部人力资源部积极应对挑战。2021 年我们创新发展思路，在“正大杯”原有赛道增设数字创新赛道，设定智慧农牧、新零售两大赛题，更借鉴了美国黑客马拉松的比赛形式，设置了线下 3 天编程大赛，IT 各模块负责人均亲临现场观察、指导、遴选人才，用科技为正大集团农牧零售行业插上智慧的翅膀。项目共召集超 800 个团队近 4,000 名中国高校数字化人才报名，产出优质项目 400 个，打磨出 6 个成熟的投融资项目。在人才方面，吸纳优秀实习生 38 人，通过正大杯入职 192 人。为集团进一步挖掘人才，对接先进技术提供了优质平台。

“Digital Innovation Track of CP Cup” - Applying Advanced Technology to Empower our Business

Jin Zuo，Huiying Dong
CP Investment Co.,Ltd.

In CP Group's digital transformation, there is a large number of shortages in our IT talent pool. In order to build up our employer brand and to attract talents, the Human Resource Department of Beijing Headquarters actively responded to the challenges. In 2021, we developed the innovative idea, added a digital innovation track to the original competition of the "CP Cup". We set up two major themes of 1. Intelligent agriculture & animal husbandry 2. New retail business. Moreover, we modified the competition form of the “American hackathon competition” by setting up asimilaron-site3-day programming competition. During the event, the heads of each team of IT department were on the scene to observe, guide and select talents. The competition applying technology to empower our agricultural & animal husbandry and retail industry. Our project has gathered more than

800 teams and nearly 4,000 digital talents from Chinese universities to register, produced 400 high-quality projects, and polished 6mature projects for incubation. In terms of talents, 38 outstanding interns were recruited and 192 were hired through the CP Cup. It provides ahigh-quality platform for our business to further track talents and find advanced technologies.
