张敬尧

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教育经历

- **合肥工业大学**　　中国，合肥
  计算机科学与技术硕士在读　　*2021* 年 *9* 月至今
  - **GPA**: 3.45/4.3.
  - **所获荣誉**: 获得合肥工业大学一等学业奖学金、二等学业奖学金各一项等。
- **安徽农业大学**　　中国，合肥
  网络工程学士　　*2017* 年 *9* 月至 *2021* 年 *6* 月
  - **GPA**: 3.79/5.0.
  - **所获荣誉**:
    * **1**: 获得中国大学生计算机设计大赛全国二等奖一项，安徽省一等奖两项；
    * **2**: 获得安徽农业大学特等学业奖学金一项，一等学业奖学金两项；
    * **3**: 获得“推荐优秀应届本科毕业生免试攻读硕士学位研究生”资格等。

项目经历

- **基于多源异构羊圈环境数据感知与应用平台系统**
  2018 年 *10* 月至 *2019* 年 *8* 月
  - **项目背景**: 本项目将物联网技术与畜牧业深度融合，紧跟畜牧业现代化的发展潮流，呈现出数据采集智能化以及生产管理数字化的特色与优势。
  - **项目细节**: 本项目的数据采集端利用树莓派驱动各种传感器，如温湿度、氨气传感器以及摄像头，获取羊圈环境数据。数据在本地进行备份，并封装成 HTTP 数据报文发送至服务器。为了缓解数据传输压力，摄像头采集的视频数据被稀疏采样后发送至后端服务器。系统能够根据实时羊圈环境数据自动化控制通风、喷洒以及空调等设备的运作。管理人员亦可通过 Web 系统进行人为控制及干预。系统的后端架构使用 Java 语言和 Spring 框架实现，保证了系统运行的稳定性和可靠性。
  - **我的贡献**: 本人负责 Web 系统前端与系统测试以及数据库表的设计，参与传感器数据的传输调试。
- **无障碍思政学习 App 开发**
  2021 年 *10* 月至 *2022* 年 *2* 月
  - **项目背景**: 本项目旨在为视障人士开发一款 iOS 平台应用软件，以帮助他们学习思政知识和掌握时事新闻，丰富他们的文化生活。
  - **项目细节**: 本项目设计并开发了一款针对视障人士的思政学习类移动应用软件。为了满足用户的需求，软件设计了手势控制和语音控制等无障碍交互方式，让用户可以轻松地阅读新闻、阅读思政文献、使用语音备忘录等功能。此外，软件还提供了十几个电台广播频道，覆盖新闻、文娱、体育、军事等多个领域，丰富了视障人士的文化娱乐生活。我们主要使用 Swift 语言和 SwiftUI 框架实现本应用软件。
  - **我的贡献**: 本人负责新闻、语音备忘录、电台广播等具体功能模块的设计与开发，参与数据存取以及模块功能的整合。
- **视听媒体一致性校验和内容审计系统开发**
  2023 年 *2* 月至 *2023* 年 *7* 月
  - **项目背景**: 本项目开发了一套专注于视听媒体信息审校的内容风控平台，利用深度学习算法实现视频内容的自动审查，助力防范敏感信息表述风险。
  - **项目细节**: 本项目基于深度学习算法，能够对视频媒体素材及视频直播内容进行高效审校，确保内容准确无误。本系统可以自动识别视频素材中的敏感内容，并对敏感标识、敏感场景等信息进行精准筛查。此外，本系统还可对视频直播的制播信号与有线电视信号进行一致性校验，防止错播、劣播、停播等不良现象的发生，提高直播内容的质量和观众体验。
  - **我的贡献**: 本人负责 Web 系统前端与系统测试以及部分数据处理，参与数据库表的设计和深度学习模型与系统对接调试。

技能总结

- **1**: 熟练掌握 Java/Python 等编程语言，具备良好的编程能力；
- **2**: 熟悉常见的数据结构与算法，能够独立完成算法设计和实现；
- **3**: 熟悉操作系统原理，了解进程、线程、调度、内存管理等相关知识；
- **4**: 熟悉计算机网络原理，了解 TCP/IP 协议栈、Socket 编程等；
- **5**: 熟练使用 Linux、ROS 操作系统、Git、Docker、MySQL 等工具；
- **6**: 熟悉常见的深度学习算法，能够熟练使用 PyTorch、TensorFlow 等框架。

关于我

本人性格开朗、积极乐观，为人诚信正直。具备坚实的编程技能和丰富的计算机基础知识，并能独立完成复杂算法的设计和实现。同时，我还具备良好的英语口语和读写能力。在团队合作中，我具备卓越的沟通和问题解决能力，曾多次担任队长参与学科竞赛并获奖，充分展现了我的团队协作潜力。此外，多次获得学业奖学金以及成功获得推荐免试研究生资格，进一步印证了我的学术和综合素质。希望能够加入贵公司，为公司的发展做出贡献。

研究经历

- **基于 3D 点云的作物果实采摘机器人研究**

  2020 年 10 月至 2021 年 6 月 中国，合肥

  - **研究内容**: 水果需求量的增长通常会提高采摘成本并降低效率，因此机械采摘代替人工已经成为一种重要的选择。然而，实现作物果实的自动识别与精准定位仍是一大难题。本研究采用 16 线激光雷达来感知果园环境的路况，实现了机械臂无人车的自动寻迹。此外，通过采集的激光雷达稀疏点云数据，还可以辅助机械臂无人车对果树位置进行初步判断。借助机械臂上的 ToF 深度相机，对果实进行详细建模和定位，并最终驱动机械臂完成果实的采摘操作。
  - **我的贡献**: 本人负责数据采集处理、深度学习模型开发与代码编写，参与机器人的设计调试。
  - **研究成果**: 学术论文一篇，学位论文一篇。

- **基于语义引导的暗光图像质量增强**

  2021 年 9 月至今 中国，合肥

  - **研究内容**: 现有暗光图像增强方法大多通过全局统一的方式优化图像，却忽略不同区域的语义信息，导致增强后的图像容易出现色彩失真等问题。本研究提出一种语义引导的暗光图像增强方法，采用语义分割网络提取图像的语义特征，将其与图像特征进行融合，并利用定制化的损失函数进行约束，从而在增强暗光图像的过程中引导网络生成更为真实和自然的图像。
  - **我的贡献**: 本人负责数据收集与处理，深度学习模型设计与开发以及代码编写。
  - **研究成果**: 正在进行详尽的实验并撰写与本研究相关的学术论文。

Jingyao ZHANG

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Education

- **Hefei University of Technology (HFUT)** Hefei, China
  Candidate for Master of Engineering in Computer Science and Technology *Sep. 2021-Present*
  - **GPA**: 3.45/4.3.
  - **Honors**: Received one First-Class Academic Scholarship and one Second-Class Academic Scholarship, etc.
  - **Relevant Coursework**: Data Mining, Modern Computer Vision, Advanced Artificial Intelligence, Pattern Recognition, Numerical Analysis, Mathematical Statistics, Advanced Computer Networking, etc.
- **Anhui Agricultural University (AAU)** Hefei China
  Bachelor of Engineering in Network Engineering *Sep. 2017-Jun. 2021*
  - **GPA**: 3.79/5.0.
  - **Honors**:
    - **1**: Won the 2nd Prize in the Chinese Collegiate Computing Competition and two 1st Prizes in Anhui Province;
    - **2**: Received one Outstanding Academic Scholarship and two First-class Academic Scholarships;
    - **3**: Received recommendation for admission to Master's program without examination, etc.
  - **Relevant Coursework**: Computer Organization, Computer Networking, Data Structures, Discrete Mathematics, Linear Algebra, Advanced Mathematics, etc.

Projects

- **Sheepfold Environment Data Perception and Application Platform System**
  Oct. 2018-Aug. 2019
  - **Background**: This project combines IoT technology with animal husbandry, keeping up with the modernization trend in the industry.
  - **Details**: This project utilizes Raspberry Pi to drive sensors for collecting sheepfold environmental data, which is then encapsulated into HTTP packets and sent to the server. Video data captured by the cameras is sparsely sampled and transmitted to the backend server. The system automatically controls ventilation, spraying, and air conditioning based on this real-time sensor data. Administrators can manually control and intervene through the web system. The backend architecture is implemented using Java and the Spring framework to ensure system stability and reliability.
  - **Contribution**: Responsible for web system front-end development and system testing, as well as the database tables design, and participation in the sensor debugging.
- **News & Knowledge App Development for the Visually Impaired**
  Oct. 2021-Feb. 2022
  - **Background**: This project aims to develop an accessible news & knowledge application for visually impaired individuals to enrich their cultural experience.
  - **Details**: This project designs and develops a news & knowledge app for visually impaired individuals, providing accessible interaction methods such as gesture and voice control. This app includes features such as reading news, political literature, and voice memos. It also includes a variety of radio channels in different fields to enrich the cultural and entertainment life of visually impaired individuals. The app is implemented using the Swift language and the SwiftUI framework.
  - **Contribution**: Responsible for the design and development of modules such as News, Voice Memo, Radio, etc. and involved in data access and modules integration.
- **Audiovisual Media Consistency Verification and Content Audit System**
  Feb. 2023-Jul. 2023
  - **Background**: This project aims to develop a content risk control platform using deep learning algorithms to automatically verify audiovisual media information and ensure content compliance with relevant regulations.
  - **Details**: This project utilizes deep learning algorithms to effectively evaluate video media and live streaming content, ensuring strict compliance with applicable regulations. The system is capable of automatically and accurately identifying sensitive content within video materials and triggering alerts when necessary. Additionally, the system verifies the consistency between the live broadcast signal and the cable TV signal to prevent broadcasting incidents, thereby improving the quality of live content and enhancing the viewer experience.
  - **Contribution**: Responsible for web system front-end development and system testing, as well as some data processing, and participates in the database tables design.

Skills

- **1**: Proficient in programming languages such as Java/Python, with good programming skills;
- **2**: Familiarity with common data structures and algorithms, with the ability to independently complete algorithm design and implementation;
- **3**: Familiarity with OS principles, knowledge of processes, threads, scheduling, memory management, and related skills;
- **4**: Familiarity with computer networking principles, understanding of the TCP/IP protocol stack, socket programming, etc;
- **5**: Familiarity with tools such as Linux, ROS, Git, Docker, MySQL, etc;
- **6**: Familiarity with common deep learning algorithms and ability to use frameworks such as PyTorch and TensorFlow.

About Me

I am cheerful, positive, and uphold integrity. With a solid foundation in computer science and strong programming skills. Additionally, I have good spoken and written English abilities. In team collaborations, I excel in communication and problem-solving, having served as a team leader in academic competitions and received awards. Furthermore, my multiple academic scholarships underscore my well-rounded abilities. It is my sincere desire to join your company and make meaningful contributions towards its growth.

Research

- **Research on Crop Fruit Harvesting Robot Based on 3D Point Cloud**
  Oct. 2020-Jun. 2021 *Hefei, China*
  - **Details**: This research utilizes a 16-line LiDAR to perceive the orchard's road conditions, enabling automatic tracking for the unmanned vehicle. Sparse point cloud data collected by the LiDAR assists the robotic arm in positioning the fruit trees. The ToF depth camera on the robotic arm is used for fruit modeling and positioning, which guides and drives the robotic arm to pick the fruit.
  - **Contribution**: Responsible for data collection and processing, AI model training and code writing, involved in the design and debugging of the robot.
  - **Achievements**: One academic paper and one graduation thesis.
- **Research on Semantic-guided Low-light Image Enhancement**
  Sep. 2021-Present *Hefei, China*
  - **Details**: This research proposes a semantic-guided low-light enhancement method. It utilizes a semantic segmentation network to extract semantic features from the image and integrates them with the intermediate features in the enhancement network. By employing a customized loss function as a constraint, the network is guided to produce more realistic and natural results when enhancing low-light images. This approach addresses the problem of color distortion caused by the neglect of semantic information in existing methods.
  - **Contribution**: Responsible for data processing, AI model development and training, as well as code writing.
  - **Achievements**: Extensive experiments and academic papers related to this research are being conducted.