王欣哲

出生年月：1999 年 11 月　　性　　别：男
籍　　贯：陕西咸阳　　政治面貌：中共党员
电　　话：13689183915　　邮　　箱：1790828743@qq.com

教育背景

2018-08 ~ 2022-07　　**北京理工大学，计算机学院**　　**计算机科学与技术专业（本科）**

专业成绩：均分 87（81/374）

学生活动：班级团支书，校合唱团团长，累计志愿时长超 80h

2022-09 ~ 至今　　**北京理工大学，计算机学院**　　**计算机技术（硕士，保研）**

获奖荣誉

- **研究生特等奖学金 1 次，国家励志奖学金 2 次**；优秀学生奖学金 7 次，研究生一等奖学金 1 次
- 北京理工大学优秀学生荣誉称号；北京理工大学优秀团干部
- **2022 年“挑战杯”中国大学生创业计划竞赛，全国金奖；2022 年中国国际“互联网+”大学生创新创业大赛，全国铜奖**
- 北京理工大学优秀本科毕业设计；全国大学生数学竞赛二等奖，全国大学生物理竞赛二等奖，全国机器人锦标赛三等奖

技能特长

- 英语能力：通过英语四级、六级，能流畅阅读英文文档和英文论文文献
- 编程语言：掌握 Python；熟悉 C/C++、Go 和 Java
- 开发技能：熟悉 Pytorch、MySql、Redis、Git、Linux；了解 Spring Boot 、Vue2、Docker、Nginx、Cmake、Jenkins
- **算法技能：**熟悉多目标追踪、低光增强、超分辨率、量化和蒸馏等领域；了解 Diffusion 、FFA 等 AI 热门前沿领域的现状和发展

实习经历

2021-06 ~ 2021-08　　**腾讯公司，互动娱乐群**　　**后台开发实习生**

工作内容：参与掌萌的后台服务开发和维护。使用 Go 语言独立的完成代码开发，具体包括需求分析、数据库设计、代码开发、测试和部署；基于 Vue 完善内部控制平台，为产品和策划人员提供方便易用的运维工具；维护后台服务的 CI/CD 流程，基于 Docker 和 K8S 对所负责的微服务进行持续部署，并监测和维护接口的运行与稳定。实习期间完成了多项需求工作，提升了后台服务的代码规范性和稳定性。

项目经历

2021-03 ~ 2021-08　　**基于 ARM 指令集的编译器**　　**团队负责人**

- 基于 ARMv7 指令集的简单编译器，支持 C 语言的分支语句、循环语句和跳转语句
- 编译器使用 C++语言进行开发，生成代码在树莓派 4B+上运行并通过功能测试
- 该项目参加 2021 年全国大学生计算机系统能力大赛-编译器赛道（华为毕昇杯）

2022-04 ~ 2022-09　　**企业 IT 信息服务平台**　　**个人项目**

- 依托微信公众号为入口的 IT 信息服务平台，提供企业 IT 服务信息查询、上报和消息通知等功能
- 基于 Vue 和 Vant 搭建了适配移动设备和 PC 设备的前端，为用户提供美观易用的 IT 信息服务界面
- 基于 Go、MySql、Redis、gRPC 等技术搭建后台服务，接入微信授权流程、模板消息，处理注册登录、消息通知和事务流程

2023-04 ~ 至今　　**感知算力芯片（清华大学，乔飞老师团队）**　　**合作课题**

- 参与设计极低功耗的深度学习感知算力芯片，负责算法方案的验证和部署，支持分类、检测、分割等多项任务
- 针对芯片的硬件约束和特点，设计算法和量化片上部署方案，解决神经网络在片上部署和推理中存在的诸多难点问题
- 当前已完成一阶段芯片的流片和测试工作，正在进行下一阶段的相关工作

学术经历

发表学术论文

- **Multi-Object Tracking in the Dark**　　**第 1 作者，已被 CVPR 2024 接收**
  简介：近期，实际应用场景下的多目标追踪问题备受关注，但低光场景下的多目标追踪问题却鲜有研究。本文专注于此，构建了首个大规模低光多目标追踪数据集 LMOT，并提出了首个低光多目标追踪方法 LTrack，采用自适应低通下采样模块和退化抑制学习策略，增强了低光场景下多目标追踪的表现。实验和综合分析证明了该方法在夜间低光场景中的优越性。

申请国家发明专利

- 基于自然图像先验的高光谱图像超分辨率方法　　2023080301363270　　已受理
- 一种低光照条件下的多目标追踪方法及系统　　2024030701173860　　已受理

Xinzhe Wang

Date of Birth：1999-11 Phone：13689183915
Place of Origin：Xianyang, Shaanxi Email ：1790828743@qq.com

Education

2018-08 ~ 2022-07 **Beijing Institute of Technology** **Computer Science and Technology (Bachelor)**
Academic Performance: Overall GPA 87 (Ranked 81/374)
Student Activities: Class League Branch Secretary, Choir Leader, Accumulated Volunteer Hours exceeding 80 hours
2022-09 ~ Present **Beijing Institute of Technology** **Computer Science and Technology (Master)**

Achievements and Honors

- National Merit Scholarship twice, Outstanding Student Scholarship seven times; Graduate Special Scholarship once, Graduate First-Class Scholarship once
- Outstanding Academic Honors at Beijing Institute of Technology; Outstanding Youth League Cadre at Beijing Institute of Technology
- "Challenge Cup" China College Students' Entrepreneurship Competition 2022, National Gold Award; China International "Internet+" College Students' Innovation and Entrepreneurship Competition 2022, National Bronze Award
- Outstanding Undergraduate Thesis at Beijing Institute of Technology; National Second Prize in College Student Mathematics Competition, National Second Prize in College Student Physics Competition, Third Prize in National Robotics Championship

Skills and Expertise

- English Proficiency: Passed CET-4 and CET-6, capable of fluently reading English papers and documents
- Programming Languages: Proficient in Python and C/C++; Familiar with Go and Java
- Development Skills: Proficient in PyTorch, MySQL, Redis, Git, Linux; Familiar with Spring Boot 、Vue2、Docker、Nginx、Cmake、Jenkins
- Algorithmic Skills: Proficient in multiple-object tracking, low-light enhancement, super-resolution, quantization and distillation, target detection; Familiar with the current research status and cutting-edge advancements in areas like Diffusion, FFA, and others.

Internship Experience

2021-06 ~ 2021-08 **Tencent，IEG** **Backend Development Intern**
Responsibilities: Engaged in the development and maintenance of backend services at Zhanmeng. Independently developed code using the Go programming language, including requirements analysis, database design, code development, testing, and deployment. Enhanced the internal control platform based on Vue to provide convenient and user-friendly operational tools for product and planning personnel. Maintained the CI/CD process for backend services, continuously deployed microservices under responsibility using Docker and Kubernetes, and monitored and maintained the operation and stability of interfaces. Completed various requirement tasks during the internship, improving the code standardization and stability of backend services.

Project Experience

2021-03 ~ 2021-08 **ARM Instruction Set Compiler** **Team Leader**
- Developed a simple compiler based on the ARMv7 instruction set, supporting branch statements, loop statements, and jump statements in the C language; implemented in C++.
- The compiler was developed using C++ and generated code that ran on a Raspberry Pi 4B+ and passed functional tests.
- Participated in the 2021 National College Student Computer System Ability Competition - Compiler Track (Huawei Ascend Cup).

2022-04 ~ 2022-09 **Enterprise IT Information Service Platform** **Individual Project**
- Created an IT information service platform accessible through a WeChat official account, providing enterprise IT service information query, reporting, and notification functions.
- Built a frontend based on Vue and Vant that is compatible with both mobile and PC devices, offering users an aesthetically pleasing and user-friendly information service interface.

- Developed backend services using Go, MySql, Redis, and gRPC, integrated WeChat authorization processes, template messages, and handled registration, login, message notification, and transaction processes.

2023-04 ~ Present **Perception Computing Chip** **Collaborative Project**

- Designed and implemented an ultra-low power deep learning perception computing chip, responsible for the algorithmic part of ResNet network quantization and on-chip deployment.
- Conducted quantization with 1w4a or 4w4a, and adapted improvements for hardware constraints to further reduce chip power consumption, supporting tasks such as image classification and object detection.
- Completed the chip's tape-out and testing for one version and is currently working on the algorithmic part of the design for the next version.

Academic Experience

Publication

- **Multi-Object Tracking in the Dark** **first author, acepted by CVPR 2024**
  Introduction: Recently, the multi-object tracking in practical use cases have garnered much attention, but the multi-object tracking in the dark scenes is rarely considered. In this paper, we build the first large-scale low-light multi-object tracking dataset (LMOT) and propose the first low-light multi-object tracking method (LTrack). It employs an adaptive low-pass downsampling module and degradation suppression learning strategy to enhance the performance of multi-object tracking in low-light scenes. Experiments and comprehensive analysis demonstrate the superiority of the LTrack in real world low-light scenes at night

Inventions

- **基于自然图像先验的高光谱图像超分辨率方法** **2023080301363270** **已受理**
- **一种低光照条件下的多目标追踪方法及系统** **2024030701173860** **已受理**