Zhiyu Yuan

yzy18@tsinghua.org.cn • (+86)13021995965

Education

Tsinghua University   Beijing, China
Master Degree of Engineering, Software Engineering.   June 2021
[transcript] [certificate]

Wuhan University   Wuhan, China
Bachelor Degree of Engineering, The Internet of Things Engineering. GPA[3.67/4.0 (rank 1/21)]   June 2021
Honors: Excellent graduate of Wuhan University(2018), Merit Student of Wuhan University(2015-2016)
[transcript] [gpa] [certificate]

Work & Research Experience

Kuaishou Technology   Beijing, China
Software Engineer [paper] (unpublished)   July 2021 - Jan 2023
Researched reducing computational resource consumption while maintaining user experience of quality in a large-scale online video recommendation system.
- Proposed an algorithm leveraging user heterogeneity to achieve personalized resource allocation efficiently.
- Implemented the algorithm and developed Hydrus system serving tens of millions of users in Brazil and Spain.
- Reduced average latency by 6% and saved 8% of computing resources (~30000 CPU cores) with minimal additional runtime (~5ms).

Kuaishou Technology   Beijing, China
Software Engineer Intern [paper] [code] (unpublished)   March 2020 - June 2021
Focused on improving short-form video recommendation model accuracy to increase the click-through rate.
- Proposed UDG, improving AUC by 0.4% and engagement metric by 2.0%, positively impacting hundreds of millions of users.
- Applied cutting-edge meta-learning technology to the online model, achieving superior performance and faster training convergence.

Face++   Beijing, China
Deep Learning Research Intern   April 2019 - July 2019
- Improved the accuracy of object detection and segmentation models by implementing state-of-the-art algorithms and techniques, fine-tuning model parameters, and optimizing data preprocessing and augmentation pipelines.
- Conducted research on reconstructing faces using GANs.

Tencent Technology   Beijing, China
Data analyst Intern   May 2020 - Aug 2021
- Conducted large-scale processing and analysis of massive data from Tencent Maps. Collaborated with cross-functional teams to apply the derived insights to improve the accuracy and relevance of map search results.
- Rewrote the data processing module in Scala, which was originally written in Java. Improved the performance and scalability of the module by leveraging advanced features of the Scala language and functional programming paradigm.

Competitions & Activities

2017 TITC National Undergraduate IOT Design Contest [site]   Wuhan, China
Leader [paper][video][award]   May 2017 - Sep 2017
National first prize and China Telecom Innovation Award (rank 3/1500).
Developed an intelligent cushion for office workers to protect data privacy and physical health. My contributions:
- Proposed and implemented algorithms for feature extraction and classification to identify individuals using data collected by pressure sensors.
- Collaborated in developing a desktop software for user identification, posture monitoring, and data visualization.

Kaggle: Jigsaw Unintended Bias in Toxicity Classification [site]   Beijing, China
Member [report] [pre] [code]   May 2019 - July 2019
Top-5% ranking with 0.94274 score and highest top-1% ranking in the history.
Developed an ensemble model of six bi-LSTMs and one BERT to recognize toxicity and minimizes this type of unintended bias with respect to mentions of identities. My contributions:
- Modified baseline and implemented new ideas to improve model performance.
- transplanted focal loss function from object detection to BERT model to enhance training for tough samples, resulting in significant improvement.

DeeCamp 2018 [site]   Beijing, China
Member [video][award]   Aug 2018 - Sep 2018
The Best Application Award (rank 3/28).
Achieved pipeline-based autonomous driving in Carla simulator within a month, which included modules for high-precision mapping, object detection and segmentation, path planning and control. My contributions:
- Modified Carla code to add functionality for data collection and visualization of route trajectories.
- Implemented the Pure Pursuit algorithm to achieve stable control of the vehicle on a predetermined route.
- Integrated modules using ROS for communication among modules and demonstrated final system.

National College Students Innovation and Entrepreneurship Training Program   Wuhan, China
Member   Sep 2016 - Sep 2017
National Excellent Project
Developed an intelligent multi-control platform based on Raspberry Pi, which is dedicated to integrating existing home appliances with Wi-Fi to connect them to a smart control center, achieving intelligent control of non-smart devices. My contributions:
- Utilizing Raspberry Pi to enable networking, infrared encoding and decoding, and control of devices at the hardware level.
- Using 3D printing technology to create a control platform.

Leadership Experience

Graduate Student Association at Tsinghua University's School of Software [site]   Beijing, China
Vice President   Sep 2018 - June 2020
- Solved various life issues for hundreds of students in the school, including but not limited to: providing guidance on academic and career development; coordinating with school administration to improve campus facilities and services.
- Organized multiple large-scale events, such as: academic seminars and workshops featuring distinguished guest speakers; career fairs connecting students with top employers in the industry.

Student Union at Wuhan University [site]   Wuhan, Hubei
Executive Vice Minister   Sep 2014 - June 2017
- Led and managed the official social media accounts including Renren, QQ, WeChat Official Account, and Weibo to promptly publish the latest school announcements and receive suggestions and feedback from students.
- Planned and organized several large-scale events for thousands of attendees such as the Luojia Golden Autumn Art Festival.

School of Computer Science at Wuhan University [site]   Wuhan, Hubei
Teaching Assistant & Study Committee Member   Sep 2017 - June 2018
- Assisted the teaching secretary in handling various requests and inquiries from students.
- Communicated with teachers regarding student feedback on courses, grades, scholarships, and other issues. Conveyed various announcements issued by the school.
- Led freshmen in completing various activities throughout their first year, helping them better integrate into campus life by answering their questions and addressing their concerns.