

Yunke YU

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EDUCATION

University of Electronic Science and Technology of China

Chengdu, China

University of Glasgow

Glasgow, UK

Bachelor of Electrical Engineering (First Class Honours; Dual degree) *Sep 2020 - June 2024*

Awards: Excellent Student Scholarship

King Abdullah University of Science and Technology

Thuwal, Saudi Arabia

Summer School

July 2022 - Aug 2022

CAREER EXPERIENCE

System Engineer (*permanent*)

BASE Co., Ltd. (ベース株式会社)

Oct 2024-Present

Client: MUFG Bank – Call System Upgrade Project

- Developed Java and SQL features, resolving system bugs to enhance functionality and performance.
- Upgraded the system to Windows 11, conducting Unit Testing (UT) and Integration Testing (ITa, ITb) to validate compatibility, stability, and system integration.
- Designed and executed detailed test cases, documented evidence, and ensured system behavior aligned with client specifications and requirements.

PROJECT EXPERIENCE

Cloud-Edge Microservices Monitoring System (Final Year Project)

Feb 2023 - July 2023

- Designed a reusable microservices framework for temperature and humidity monitoring using Raspberry Pi, supporting key user, device, and business functionalities.
- Built user features (registration, activation, login) with React, Python, and MySQL.
- Developed a Device Management microservice with Flask (Python) and Google Cloud for real-time sensor monitoring and automated email alerts.
- Explored Redis, RabbitMQ, WebSocket, and Java Spring framework for scalability and responsiveness.

Distributed System Projects (Interview Projects for KAUST PhD Application) *May 2023 - June 2023*

- Project 1: Developed a mini distributed training system utilizing the Allreduce algorithm for gradient aggregation and implemented sparsification for gradient compression. Designed a compressor for the Distributed Data Parallel (DDP) model to compress gradient values in buckets and decompress tensors post-communication. Maintained daily documentation and progress reports.
- Project 2: Conducted an in-depth review of a state-of-the-art research paper by the interviewing professor, proposing a detailed solution to a specific problem outlined in the paper.

Autonomous Vehicle Development (Team Design Project)

Mar 2023 - June 2023

- As one of three key technical contributors in a 10-member team, developed an autonomous vehicle with a focus on computer vision, navigation strategy, and hardware integration.
- Applied asynchronous programming for task coordination and implemented dynamic navigation plans across two outdoor patios.
- Integrated OpenMV for arrow detection, conducted pre-testing to improve vehicle reliability, and worked with the hardware team to integrate ultrasonic modules and IMU.
- Contributed to project documentation and coordinated progress on GitHub, with the team ranking among the top in a 25+ group competition.

Machine Learning for Glioma and Pseudotumor Recognition in Brain MRI *Mar 2022 – Feb 2023*

- Led brain tumor segmentation using neural networks and pre-processed brain MRI datasets.
- Developed Bash scripts to automate data pre-processing, optimizing batch processing efficiency.
- Conducted a comprehensive literature review on 50+ neural network combinations, utilizing 3D-Unet for optimal tumor segmentation after system analysis.

Deep Learning for Resource Management in Open RAN *Jul 2022 – Aug 2022*

- Conducted literature review on deep learning applications in Open RAN, focusing on resource, mobility, and spectrum management.
- Proposed a DL-based resource management system for future Open RAN architecture.

Machine Learning for Stock Market Tendency Forecasting *Apr 2022 - May 2022*

- Developed and implemented a Support Vector Machine (SVM) model for stock market tendency forecasting, considering variables such as duration and percentage thresholds for gains and losses.

Deep Learning for Diagnosis of Focal Cortical Dysplasia Using GANs *Sep 2021 - Mar 2022*

- Applied Generative Adversarial Networks (GANs) for staining normalization of patch datasets, improving the identification of focal areas for Focal Cortical Dysplasia diagnosis.
- Visualized focal areas through heatmap generation to aid diagnosis.

EXTRACURRICULAR ACTIVITIES

China National Model United Nations Conference *Oct 2021 - Jan 2022*

Chief Financial Officer

- Managed finances during and after the conference, ensuring smooth operations and budget compliance. Oversaw check sheet collection and the reimbursement process.

TEDxUESTC *Sep 2020 - Dec 2021*

President & Conference Organizer, Outreach Team Leader

- Accelerated the TEDxUESTC 2021 conference preparation from 6 months to 3, overseeing speaker coordination, presentation guidance, content review, and HR management.
- Onboarded and mentored 6 members, elevating them to speaker coaches and ensuring 6 keynote addresses.
- Developed contingency plans for the pandemic, ensuring smooth conference execution.
- Secured financial support by liaising with sponsors and school authorities.
- Restructured the organization's operational framework, improving organizational dynamics.
- Drafted a report, "Speaker Training Skills and Principle Analysis," offering insights for future leaders.

PUBLICATIONS

W. Sun, S. Lu, Y. Yu, J. Yan and B. Yan, "Efficient Recognition for MQAM Signal Using Feature Extraction," *2021 International Conference on UK-China Emerging Technologies (UCET)*, Chengdu, China, 2021, pp. 13-18, doi: 10.1109/UCET54125.2021.9674974.

SKILLS&HOBBIES

Programming: Python, Java, C | **Database:** MySQL | **Tools:** Docker, Git, Linux | **Scripting:** Bash
Languages: Chinese (native) | English (near-native proficiency, IELTS 7.5) | Japanese (conversational)
Hobbies: Fencing (Professional Athlete); Flute (National First Prize & 50+ Orchestra Concerts)