

Linqiang Guo

<https://github.com/pockyitachi>

Email: linqg327@gmail.com

Mobile: (437)-818-0327

EDUCATION

- Concordia University** Montreal, CA.
Doctor of Philosophy - Software Engineering 2024 - Present
- University of Miami** Miami, US.
Master of Science - Electrical Engineering and Computer Engineering AI track 2020-2022
- University of Missouri Columbia** Columbia, US.
Bachelor of Science - Electrical Engineering 2016-2019

SKILLS SUMMARY

- Languages:** Python, C, SQL, Java, HTML, CSS, MATLAB
- Tools & Platforms:** Unsloth, ADB, HuggingFace, PyCharm, IntelliJ, MySQL, AWS, Linux
- Frameworks:** LLM fine-tuning, Multimodal VLM pipelines, PyTorch, OpenCV, Spring Boot, Spring Cloud, Kubernetes

PUBLICATIONS

- Agent SAMA: State Aware Mobile Assistant:** Linqiang Guo, Wei Liu, Yi Wen Heng, Tse-Hsun (Peter) Chen, Yang Wang. Accepted to **AAAI 2026**.
- Guiwatcher: Automatically Detecting GUI Lags by Analyzing Mobile Application Screenshots:** Wei Liu, Fang Lin, Linqiang Guo, Tse-Hsun (Peter) Chen, Ahmed E. Hassan. Accepted to **ICSE 2025**.
- ScreenCast-Based Analysis of User-Perceived GUI Responsiveness:** Wei Liu, Linqiang Guo, Yi Wen Heng, Cheng Li, Ahmed E. Hassan. **Under Review**.
- MAPLE: A Mobile Assistant with Persistent Finite State Machines for Recovery Reasoning:** Linqiang Guo, Wei Liu, Yi Wen Heng, Yiming Wang. Accepted to **COLM 2025 Workshop**.
- PopSweeper: Automatically Detecting and Resolving App-Blocking Pop-Ups to Assist Automated Mobile GUI Testing:** Linqiang Guo, Wei Liu, Yi Wen Heng, Yiming Wang. **Under Review**
- Registration on DCE-MRI Images via Multi-Domain Image-to-Image Translation:** Naxin Cai, Houjin Chen, Yanfeng Li, Yahui Peng, Linqiang Guo. Accepted to **Computerized Medical Imaging and Graphics (IF 7.422)**.

EXPERIENCE

- China Petroleum Engineering Construction Corp. Gulf Region** Abu Dhabi, United Arab Emirates
Software Engineer Intern Jan 2020 - Feb 2020
 - By using Spring Boot, Spring IOC, Spring AOP, Spring MVC, Java basic knowledge, Maven and Hibernate to develop Restful web services such as managing travelling request.
 - Tested designed features by JUnit and Mockito
 - Used Git for version control, GitHub for code reviewing
- Walmart Global Tech** California, USA.
Backend Developer(In contract) Sep.2022 - Nov.2023
 - Built and maintained microservices supporting **customer personalization**, data ingestion, and recommendation logic using Java, Spring, and cloud-based tools.
 - Working and Testing on **Milvus** database with **K8s(Kubernetes)** optimize the performance.
 - Integrated **GenAI** workflows into search components, improving query understanding and relevance ranking.
 - Worked closely with data science and platform teams to deploy scalable API endpoints, improve service reliability, and streamline **CI/CD** processes.
- Software Performance, Engineering, Analysis, and Reliability (SPEAR) Lab** Montreal, Canada
Research Assistant Jan. 2024 – Present
 - Conduct research on intelligent mobile software systems with a focus on **AI-driven** automation and user interface understanding.
 - Develop methodologies for improving **agent reasoning**, state awareness, and robustness in complex mobile environments.
 - Co-authored multiple papers submitted to top venues such as AAAI, ICSE, TOSEM, and COLM.
- Concordia University** Montreal, Canada
Teaching Assistant Jan. 2025 – Present
 - Assisted in teaching Software Engineering courses, including software design, UML modeling, software testing, and project management.
 - Led weekly tutorials and provided support to students through office hours and online discussions.
 - Helped students understand core concepts in software engineering, programming, and GitHub-based project workflows.

PROJECTS

- **Face recognition system(Deep Learning, Machine learning, Computer Vision)** May. 2022
 - Implemented and optimized the Deep Learning method and **Bag of Visual Words(BoVW)** method to achieve recognizing the human faces, and compared performance of each method.
 - Designed a new Fully connected layer and a new output layer to modify the **GoogLeNet Neural Network** based on **Transfer learning** for the Deep Learning method.
 - Clustered the facial feature and generating the codebook for the dataset based on the BoVW model, and then applying a **multi-Support Vector Machine** to classify and recognize the face images
 - Optimized the training options and parameters for maximizing and comparing the performance for both methods(**83.5%** accuracy for Deep Learning and **58.5%** accuracy for BoVW).
- **Enhancement of various color images for feature matching (Digital Image Processing)** Oct. 2021
 - Applied **Sharpening** techniques to highlight edges and small details in images, **High-boost filter** and **Laplacian Filter** were applied in these approaches.
 - Applied **Noise removal** techniques to the processed images. **Gaussian smoothing** was applied to each RGB channel separately, and then merge them back to get the result.
 - Applied the **Histogram Equalization** to achieve Color balancing and tone correction, enabled locations with low local contrast to obtain a boost in contrast
 - Applied the **Homomorphic Filter** to to adjust the illumination of images
- **Online Ticket ordering System(Microservice, Spring)** June. 2021
 - Built Microservice architecture using Spring and applied HTTP for communication, and developed an interactive web page(React) for users to search events, update preference and view recommended events.
 - Utilized MySQL/MongoDB to store and modify(CRUD) user preference and the event information.
 - Designed an event recommendation system based on user preference by applying Machine Learning tools for providing events recommendation to users.
- **Predicting the Winner Group based on Gaming Status (Data Mining, Machine Learning)** Apr. 2021
 - Applied **Data Mining** techniques and **Machine Learning** algorithms to predict the Game results based on a League of Legends gaming status dataset, which includes around 9900 games with 47 attributes.
 - Applied Data Analysis and Data Mining algorithms to modified the valid attributes and remove the outliers and irrelevant data, 30 valid attributes and around 7000 samples were kept.
 - Applied the **Support Vector Machine, Decision Tree, and Logic Regression** to predict the winner group based on the processed data, compared and discussed the performance of each algorithm.
- **Data Collection and Transmitter/Receiver for Mizzou Space Program Rockets** Mar. 2018
 - Designed a system for rockets to collect the flying data and send it back to the base station in real time for a **Mizzou Space Program** Rocket, which was launched in May. 2018 at Columbia MO.
 - Designed data collection system to collect flying data by implementing different sensors(Temperature, Humidity, and Pressure), an Internal Measurement Unit(IMU) chip(accelerometer, gyroscope,) and the I2C communication system(GPS).
 - Designed a system for monitoring the rocket status, and transferring the collected data to the base station in real time with a combination of **Radio Frequency Transceiver and Receiver** controlled by an arduino.
 - Designed a **Backup system** for the rocket to save the flying data with a Secure Digital card, which can read and save the data in the process control.