# Xuanming Bi

852 65431267 Bi_Xuanming@outlook.com

## EDUCATION

### The University of Hong Kong (HKU) 09/2024 - present

- Master's Degree in Computer Science (expected in December 2025)
- Professional Skills: Java Programming, C++ Programming, Python Programming, R Programming, React Front-End Programming, JavaScript (Front-end), SQL Query Language, Machine Learning in Computer Vision, Android App Development
- IELTS: 7.0

### South China Agricultural University (SCAU) 09/2020 - 06/2024

- Bachelor of Engineering in Software Engineering; Average Score: 89.98/100.00

## PUBLICATIONS

Yuefang Gao, Yiteng Cai, Xuanming Bi, Bizheng Li, Shunpeng Li, Weiping Zheng. (2023). Cross-domain facial expression recognition through reliable global-local representation learning and dynamic label weighting. *Electronics Journal on Artificial Intelligence*.
Yuxin Wu, Changjun Cai, Xuanming Bi, Junjuan Xia, Chongzhi Gao, Yajuan Tang & Shiwei Lai. (2023). Intelligent resource allocation scheme of the cloud-edge-end framework in multi-source data flows*, EURASIP Journal on Advances in Signal Processing*.

## RESEARCH EXPERIENCE

### Machine Learning Models & Natural Language Processing for Optimizing Retirement Portfolios 02/2025 - present

Supervisor: Dr. H. F. Ting

- Process financial news datasets using NLP, deploy classification models to cluster the actual trend of the stock at the time, and predict the future stock trend to give optimal portfolio suggestions.

### Elderly Fall Detection and Protection Product based on Computer Vision 01/2025 - present

Supervisor: Dr. Schnieders, Dirk

- Train and deploy the large language model and develop the web platform and mobile APP;
- Use computer vision technology to estimate the current posture of the elderly, immediately sending a notification to the guardian's mobile device when a fall occurs while simultaneously analyzing the situation and giving treatment advice.

### Cross - domain Facial Expression Recognition (CD - FER) through Reliable Global - Local Representation Learning and Dynamic Label Weighting 04/2023 - 11/2023

Supervisor: Yuefang Gao

- Contributed to the research on CD - FER and involved in the pseudo - complementary label learning (PCLL) module;
- Achieved effective domain - invariant feature learning and category distribution matching based on credibility thresholds and label weights matching by integrating global and local features, tackling the domain transfer challenge in CD - FER.

### Fine Phenotypic Analysis System: Positioning and Automatic Measurement and Analysis of Soybean Leaf Vein Key Points

**11/2021 - 11/2022**

Supervisor: Yuefang Gao, collaborated with the College of Agriculture at the SCAU

- Undertook core framework development, model training and deployment to the platform.
- Attained the Soft Title No. 10923518

## RESEARCH ASSISTANT INTERNSHIP

### The Hong Kong University of Science and Technology (Guangzhou)

**02/2024 - present**

Research Assistant

- **[Underwater Cleaning Robot Project]:**
  Developed a UI interface based on the Pingviewer core code, utilizing Qt and QML for interactive visualization; Integrated sonar, gyroscope, voltage, and current data collection and analysis; Established data communication via Ping Protocol, employed NumPy for signal processing, and implemented real-time data transmission and analysis using ZeroMQ, ensuring system stability and data synchronization.
- **[Low-carbon Campus Cloud Platform Project]:**
  Built a web-based visualization platform using Laravel (PHP)
  as the backend framework and React.js for the frontend to monitor and manage electricity consumption and carbon emissions in real-time; Used Redis for caching optimization towards the data stored in MySQL, utilized ECharts for data visualization, and supported real-time data updates via WebSockets and MQTT.
- **[Reinforcement Learning-Based Datacenter HVAC Intelligent Control Project]:**
  Studied intelligent control strategies for the HVAC (Heating, Ventilation, and Air Conditioning) system at HKUST (GZ) and developed reinforcement learning models using TensorFlow and PyTorch, with Modelica for environment simulation, optimizing energy consumption and system efficiency; Built the backend with FastAPI, utilized TimescaleDB for time-series data storage and applied Dask for distributed computing.
- **[Smart Battery Management APP Project]:**
  Developed an Android-based APP to enable real-time battery health monitoring, helping users track battery activity and improve safety and efficiency.
  Implemented business logic in Java and designed UI layouts using XML for an optimal user experience.

## PROFESSIONAL EXPERIENCE

### Neusoft (Guangzhou) Co., Ltd.

**06/2023 - 09/2023**

Java Development Intern

- Developed a back-end big data analysis platform based on Kafka clusters, with Springboot as the infrastructure;
- Analyzed user behavior in real-time or offline in Hadoop and Hive and displayed data and push plans.

## COMPETITION AWARDS

**First Prize in South China in the 5th National High School Computer Ability Challenge** **11/2024**

**Second Prize (Provincial) in the 2023 National Mathematical Contest in Modeling for College Students** **09/2023**

**Second Prize (Provincial) in the 4th Huashu Cup National College Student Mathematical Contest in Modeling** **08/2023**

**Second Prize (Provincial) in the 15th CSE Cup National Mathematical Contest in Modeling for College Students** **05/2023**