# Joe Huang

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#### **PROFESSIONAL SUMMARY**

As an experienced field application engineer and skilled software engineer with a strong background in computer science, I excel in solving complex problems with a creative approach. I am a strong analytical thinker, capable of thinking conceptually and innovatively. My expertise spans MS Windows, SQL, and basic cloud concepts (AWS). Drawing on my customer-facing experience, I am adept at troubleshooting issues and providing exemplary support. Driven by continuous learning and a collaborative mindset, I strive to deliver effective, innovative solutions that foster both technical and user-centric success.

#### **Technical Skills**

### **Programming Languages:**

Python, C#, Java, SQL

Machine Learning: PyTorch, TensorFlow, Pandas, Scikit-Learn, Knime

Data Visualisation: Tableau, Matplotlib, UMAP

Big data: Hadoop, Kafka

**Operating Systems:** Windows, Linux Ubuntu

Tools: Git, Docker

Image processing and Industrial cameras:

OpenCV, Halcon, Matrox Imaging Library, Hikvision industrial camera, Basler industrial camera

IDEs: PyCharm, Jupyter Notebook, VS Code, Spyder

#### **WORK EXPERIENCE**

# **IT Specialist**

## Landbank of Taiwan | Brisbane QLD | Jan 2025 - Current

Oversee the bank's comprehensive IT systems—including network administration, virtualization, and security—to ensure high availability and robust protection of critical operations.

- Manage and maintain the organization's IT infrastructure, including network equipment, servers, personal computers, software/hardware support, and reporting systems
- Configure, monitor, and optimize VMware environments to ensure high performance, scalability, and security for virtual machines
- Administer firewalls, and antivirus solutions to safeguard the organization's information systems and data
- Develop shell scripts to automate routine software updates on local PCs—minimizing manual steps, streamlining file server downloads, and adhering to strict banking system constraints
- Manage local file server integration with the corporate AD environment, applying user/group permissions to maintain secure access for staff.

# Research Assistant / Tutor / Facilitator

# Swinburne University of Technology | Melbourne VIC | Mar 2023 - Jan 2025

Tutored **Big Data Application and Architecture, Introduction to Data Science, Data Science Principles** and **Technology Application Project** and assisted in research projects.

- Big Data Application and Architecture: Guided students handling large-scale data through big data applications such as Apache Hadoop and developed Apache Kafka hands-on projects as course material.
- Data Science Principles: Instructed students on using Knime for data cleaning, building ML models, and conducting statistical tests.
- Introduction to Data Science: Instructed students on using Python, scikit-learn, Pandas and NumPy for data cleaning, data visualization, exploratory data analysis, feature engineering, building machine learning models and analyzing data.
- Technology Application Project: Supervised and provided professional guidance to students
  working with industry clients on various projects, including software upgrades, data analysis,
  and developing new applications such as systems utilizing ChatGPT's API for natural language
  data inquiries.
- Explored the use of ChatGPT in education by optimizing prompts and evaluating response accuracy, collecting data to inform further studies.
- Developed course materials for AWS, including cloud computing concepts and hands-on projects.

#### Summer Research Scholar (Al applied to 3D magnetic resonance images)

### The University of Queensland | Brisbane QLD | Dec 2021 - Feb 2022

Researched the interpretability of deep learning models with magnetic resonance images of human brains and knees

- Set up environment on Linux cluster using Docker
- Studied and researched styleGAN3 with magnetic resonance images
- Trained and researched latent space of styleGAN3 using python, PyTorch and UMAP

### **Field Application Engineer**

#### Contrel Technology | Taiwan | Sep 2018 – Aug 2019

Responsible for Automated Optical Inspection equipment, including developing, testing, installing, configuring and maintaining.

- Conducted meetings with customers to develop design specifications
- Coordinated the testing process for the equipment
- Collaborated with technical staff and customers to troubleshoot software and hardware issues in various locations around the world

#### **Computer Vision Research and Development Engineer**

### Contrel Technology | Taiwan | Jul 2017 - Aug 2018

Developed machine vision alignment systems to accurately align products in production lines for Automated Optical Inspection

 Developed image processing algorithms using C#, Matrox Imaging Library and Halcon to extract patterns for machine vision alignment

- Developed machine vision alignment algorithms and communicated with PLC using C#
- Selected cameras and lenses according to technical specification
- · Collaborated with the engineering and marketing department on product feasibility

### **Projects**

# Facial expression recognition with generative-based augmentation

### The University of Queensland | Brisbane QLD | Apr 2022 – Jun 2022

- Acted as the project team lead to coordinate tasks among team members
- Trained generative models for data augmentation using python and PyTorch
- Troubleshooted for teammates regarding environment and training issues

**Key Achievements:** Increased the classification macro F1 score of by 8.95%

### **StyleGAN implementation on OASIS dataset**

# The University of Queensland | Brisbane QLD | Sep 2021 - Nov 2021

- Studied and researched styleGAN and proGAN
- Implemented styleGAN using python and PyTorch
- Version control using git and GitHub

The project code can be accessed via: <a href="StyleGAN-implementation-on-OASIS">StyleGAN-implementation-on-OASIS</a>

#### **EDUCATION**

#### **Master of Data Science**

The University of Queensland | Brisbane | Jul 2020 – Jun 2022 | GPA: 6.38/7.0

• Award: Dean's Commendation Awards