

Rui-Bin Liu (劉睿彬)

☎ 0988835825 ✉ ray0924@gmail.com

Research Interest

Machine Learning, Deep Learning, Computer Vision.

Skills

Programming

- Python, C++, HTML, CSS, JavaScript
- Machine learning framework (familiar in keras, tensorflow, etc.)

Data Analysis and Machine Learning

- Exploratory data analysis & data mining, feature engineering
- Prediction modeling (familiar in XGBoost, LASSO, etc.)

Deep Learning

- Component selection optimization (multilabel classification)
- Predictive maintenance & anomaly detection with deep neural network
- Image (defect) classification (segmentation) with convolutional neural network

Work Experience

Foxconn Technology Group

Machine Learning Engineer

Dec. 2017 –
Shenzhen, China

- Optimize optical inspection model for products with deep learning algorithms.
- Analyze industrial data to build prognostic health monitoring model.
- Support teaching programs by lecturing employees in the company.

Project Experience

Display Panel Defect Detection Project (面板瑕疵檢測專案)

Mar. 2018 – May. 2018

Responsible For

- Data engineering and deep learning modeling.

Tools Used

- NumPy, Matplotlib, Tensorflow, CNN deep learning models and other image processing packages.

Mobile Phone Defect Detection Project (手機瑕疵檢測專案)

Jul. 2018 – Dec. 2018

Responsible For

- Data engineering, deep learning modeling and system integration testing.

Tools Used

- NumPy, Matplotlib, Tensorflow, Keras, R-CNN deep learning models and other image processing packages.

Project Effectiveness

- In one of the photo data sets, the accuracy reached up to 85%, and the mAP reached more than 60%.

Web Crawler of News and Public Opinion (新聞輿論網路爬蟲系統)

Jun. 2019 – Aug. 2019

Responsible For

- Implementing customized crawler and parser for the target websites.

Tools Used

- Python web crawler libraries: BeautifulSoup and Selenium.

Project Effectiveness

- Systematically collects articles and discussion data from major news websites, forums, and blogs in Taiwan, and imports them into a database for archiving.

Teaching

Python Data Collection and Preprocessing (Python 資料收集與預處理)

Aug. 2018 - Feb. 2019

Assistant Lecturer

Foxconn Industrial Internet Academy

- Teach how to use NumPy, Pandas for data collection and preprocessing.

Python Data Visualization (Python 資料視覺化)

Dec. 2018

Assistant Lecturer

Foxconn Industrial Internet Academy

- Teach how to use Matplotlib, Seaborn for data visualization.

Feature Engineering (數據特徵工程)

Apr. 2019

Assistant Lecturer

Foxconn Industrial Internet Academy

- Teach how to engineer features and build simpler, faster and more reliable machine learning models.

Introduction to Machine Learning (機器學習導論)

Apr. 2019

Assistant Lecturer

Foxconn Industrial Internet Academy

- Introduce the basic concepts of machine learning and its classical algorithms.

Education

National Chiao-Tung University (交通大學)

June 2012 - June 2016

- B.S. in Computer Science
- Zi-Xin (資心) Project Scholarship
- Advised by [Ying-Ping Chen \(陳穎平\)](#)

Hsinchu, Taiwan

National Experimental High School at Hsinchu Science Park (新竹科學園區實驗高中)

Hsinchu, Taiwan June 2009 - June 2012

Publication

Automatically Proving Mathematical Theorems with Evolutionary Algorithms and Proof Assistants

Yang, L.-A., **Liu, J.-P.**, Chen, C.-H., & Chen, Y.-p. (2016). Automatically Proving Mathematical Theorems with Evolutionary Algorithms and Proof Assistants. In Proceedings of 2016 IEEE Congress on Evolutionary Computation (CEC 2016), part of 2016 IEEE World Congress on Computational Intelligence (IEEE WCCI 2016) (pp. 4421–4428). doi: [10.1109/CEC.2016.7744352](#). ([arXiv:1602.07455](#)).

Leadership Experience

Substitute Service Training Center, National Conscription Agency (役政署替代役訓練班)

Division Leader (區隊長)

Taichung, Taiwan Oct. 2016 - Sept. 2017

- Train recruits of substitute services and manage human resources in the recruit training unit at Chen-Kung Hill (成功嶺) Training Center.

Other Achievement

“Distributed Processing in Smart Manufacturing” by Dr. Hwang Shin Hwan

Mar. 2019

Oral Interpreter

- Act as the interpreter of a technical seminar, consecutive interpreting English paragraphs into Chinese.