MING-RUEY CHOU

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MingRuey
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Ming-Ruey Chou has hands-on skills of design, train and deploy deep learning models into production-level code. He is currently developing image recognition solutions for automated optical inspection (AOI) systems. He uses deep learning combined with traditional computer vision to identifying defects in the manufacturing process.

WORK EXPERIENCE

2020 - Current **Computer Vision Engineer, AI Group Leader**, *UTECHZONE*, Taipei.

- Manage team on the developement of AI solutions on AOI system.
- Blend traditional computer vision techniques into deep learning solutions for PCB defect detection. Reduce the false negative rate to one tenth (from 1000 to 100 ppm), at over 90% overall accuracy. Direct cause for winning bussiness contracts.
- Develope new product line focusing on HDI/Flex/SMT PCB inspection.

2019 - 2020 **Computer Vision Engineer, AI Group**, *UTECHZONE*, Taipei.

- Product owner of company-level deep learning library.
- Design and develope Python based engine into the library. Also setting up automated testing for the library from scratch to over 70% coverage.
- Responsible for failure analysis and model performance improvement, in various object detection and classification tasks.
- Research on generative adversarial networks (GAN) for defect detections.

Skills

Languages Python, C#, C, C++
Computer Vision Opecv/Emgucv in both Python, C#, and C++
Deep Learning Tensorflow (including Keras API), PyTorch, Numpy related tools
Environment Windows, Linux
Development Git, Docker, NUnit, Pytest

EDUCATION

2016 **M.S. in Physics**, *Department of Physics*, National Taiwan University.

Thesis: Rheometry on Concentrated Suspension of Soft Particles.

Publish on Soft Matter: doi.org/10.1039/D0SM00405G
(In Mandarin) Website: www.phys.sinica.edu.tw/jctsai/Ray2016/

2013 **B.S. in Physics**, *Department of Physics*, National Taiwan University.

OTHER EXPERIENCE

2018 Jan; 2018 JUL **Twin Oaks Education**, *Course Design and Project Mentor*, www.twinoaks-edu.com/.

2017 **Substitute Services in Education**, *Xinyi Elementary School*, Hualien, Taiwan.