YU-CHEN HUANG

Location: Mountain View, CA | Phone: (669)214-7089
Email: yuchenhu@andrew.cmu.edu | LinkedIn: linkedin.com/in/huang-yuchen

EDUCATION

Carnegie Mellon University (CMU) **Mountain View, CA**
*MS in Electrical Computer Engineering, **GPA**: 3.67/4.0* *Aug. 2021 – Dec. 2022*
Course: How to Write Fast Code I & II, Machine Learning for Signal Processing, Advanced Probability & Statistics

National Taiwan University (NTU) **Taipei, Taiwan**
*MBA in Information Management, **GPA**: 4.02/4.3* *Sep. 2017 – Jun. 2019*
*BBA in Information Management & BA in Library Information Science, **GPA**: 3.99/4.3, **Rank**: 2/53* *Sep. 2012 – Jun. 2017*
Course: Convex Optimization, Digital Speech Processing, Information Retrieval and Text Mining, Applied Deep Learning

WORK EXPERIENCE

Taiwan Semiconductor Manufacturing Company (TSMC) **Hsinchu City, Taiwan**
Software Engineer *Sep. 2019 – Aug. 2021*

Post-Route DRC Recognition with Unified Multi-Task Architecture
- ***Patents***
- Improved prediction to 88% accuracy under uniquely learned layout embedding
- Helped customers resolve an average of 22% more DRCs with an 85% reduction in manual efforts

Automated Chip Hotspot Detection
- Predicted 43% of defective areas in an existing dataset with inception-based and encoder-decoder structures
- Marked potentially defective areas according to defective probability using Grad-CAM

LogAnalyzer
- Initiate a log analyzer to extract essential errors from millions of logs within 3 minutes which has became one of check items for hardware engineers to evaluate quality of IC design
- Apply drain3 to group similar errors and analyze change in frequency of error between different version to find out new pop-up error

TSV Violation Pattern Clustering
- Innovate a pattern clustering flow to process 500 thousands of TSV pattern image in 1min and enable hardware engineers to identify most frequent violation pattern in new IC design and develop a trade-off strategy
- Implement autoencoder model to extract feature of image pattern w/o label and use spectral clustering to cluster possible violation pattern

Automated Thesis Cataloging Tool (Internship) *Jul. 2018 – Aug. 2018*
- Reduced work time by 80% by generating a fine-grained catalog with Doc2Vec and hierarchical clustering
- Increased reading speed by 1200% by using TestRank to highlight the top 5% most-informationally sentences

RESEARCH EXPERIENCE

NTU WEAL Research Lab **Taipei, Taiwan**
A Deep Learning Model for Extracting Live Streaming Video Highlights using Audience Messages *Sep. 2017 – Jun. 2019*
- Outperformed other prediction models by 40% in precision and 110% in recall
- Published results in ACM Artificial Intelligence and Cloud Computing Conference 2019

PROJECT EXPERIENCE

Applied Deep Learning Course
Disease Detection in X-Ray Images *Nov. 2018 – Dec. 2018*
- Detect diseases in x-ray images by using a pre-trained VGG19 model and Grad-CAM to highlight bounding boxes
- Mitigated data imbalance problems by adopting resampling, weighted loss function, and data augmentation

SKILLS

- **Programming Languages:** Python, R, C++, Java, TCL
- **Tools & Platforms:** TensorFlow, PyTorch, Keras, skit-learn, Git, Linux, azure, Django, Jupyter, OpenMP, CUDA, SQL