Yan-Cheng (Bill) Hsu

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NEXT STOP

Software Development Engineer Intern: Amazon.com Services, US — Jun. 2022 – Sep. 2022

EDUCATION

M.S., *Computer Science*, UC San Diego — Dec. 2022
Courses: Recommender System & Web Mining, Graduate Network System

B.S., *Electrical Engineering*, National Central University — 2017 – 2020
Related Courses: Data Structure, Algorithm, Operating System, Computer Organization — GPA: 3.97/4.00

SPECIALIZED SOFTWARE SKILLS

Programming Language: Python, Golang, C/C++, SQL/PromQL, Node.js

Frameworks/Applications: Docker Compose, AWS EC2, Distributed System, Unit Test, Prometheus, Git, CI/CD

ENGINEERING PROJECTS

CSE224 Network Systems — Jan. 2022 – Mar. 2022

Project I: A Web Server (*Golang, Node.js, SQL, AWS, Docker Compose, TCP/HTTP, Distributed System*)

- ✓ Designed and implemented a simple web server from scratch that can handle different requests from multiple users
- ✓ Deployed and implemented a simple Node.js-based website with mySQL database as backend on AWS EC2 instance

Project II: File Sharing System (*Golang, Docker Compose, gRPC, File System, OS*)

- ✓ Designed and implemented a simple file sharing system (meta-service + block-service) that allows users to synchronize their file changes through gRPC

CSE 258 Recommender System — Oct. 2021 – Dec. 2021

Project I: Recommender System Rating Prediction

- ✓ Designed a latent factor rating prediction model with tensorflow and achieved top 5% (25/552) performance in the class

FORMER WORK & INTERNSHIP EXPERIENCES

Software Engineer Intern: Wiwynn Inc (Acer's Child Company), Taipei.TW — Jul. 2021 – Aug. 2021

Prometheus Infrastructure Testing Data Analysis and Software Toolkit Development (*Python, SQL, Git, CI/CD, Python Unit Testing, Prometheus, Distributed System, Large Scale Database, Temporal Data Analysis*)

- ✓ Established and implemented a prototype data pipeline for production line testing data analysis
- ✓ Delivered 3 fully documented and unit-tested Python packages for collecting, aligning, and analyzing both temporal infrastructure's hardware data (Prometheus) and production line testing data in different databases
- ✓ Reduced and redefined the scope of production line performance enhancement problem to roughly 0.34x compared to the original

Research Assistant: MLBR Laboratory (National Central University), Taoyuan.TW — Dec. 2019 – Sep. 2020

Deep Neural Network Predictor by Introducing a new Feature Selection Algorithm (*Python, Tensorflow, CUDA, Pytorch, Statistics, Data Science, Artificial Intelligence*)

- ✓ Delivered and designed a deep learning blood pressure estimation model from scratch including temporal data preprocessing, neural network selection, and design of physiological feature selection algorithm with Mean Absolute Error (MAE) equal to 2.73 mmHg over 2.5M+ cardiac cycles collected from 9000 patients by introducing a new physiological feature selection algorithm
- ✓ Incorporated ~6x more data into the new model and made the model ~1.8x more accurate compared to the existing model
- ✓ Published 1st author work in an international journal *Sensors:*
  Hsu, Yan-Cheng; Li, Yung-Hui; Chang, Ching-Chun; Harfiya, Latifa N. 2020. "*Generalized Deep Neural Network Model for Cuffless Blood Pressure Estimation with Photoplethysmogram Signal Only*." *Sensors* 20, no. 19: 5668. *doi*, *github*

Software Research Intern: BioEE Laboratory, UCSD.US — July. 2019 – Aug. 2019