MENG-CHUAN CHANG (DECEMBER 18, 2022)

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EDUCATION

University of Pennsylvania   Sept. 2021 - May 2023
M.S. in Scientific Computing   *PA, United States*

· CodePath: Professional iOS (ID: 75968)/Software Engineering (ID: 101154)

National Tsing Hua University   Sept. 2015 - June 2019
B.S. in Power Mechanical Engineering   *Hsinchu, Taiwan*

· Academic Achievement Award × 1 (ranked within top 3% of class)

WORK EXPERIENCE

Fang-Yen Laboratory (Bioengineering)   May 2022 - Dec. 2022
Software Engineer, University of Pennsylvania   *PA, United States*

· **Optimized software built in worm picker robot**
  · Built communication system between C++ and Python (RPC with socket)
· **Developed and validated bio analyzing software**
  · Implemented computer vision algorithm and Mask-RCNN model for analyzing worm image and barcode
  · Improved the accuracy by 5% via tuning hyper-parameter and add additional analyzing program

Evith Technology (Artificial Intelligence Startup)   Sept. 2020 - June 2021
Software Engineer, ID Analyzer (Identity Verification SaaS Solutions)   *Taichung, Taiwan*

· **Added new features in ID card authentication function**
  · Developed feature detecting system for ID cards by implementing computer vision technique
  · Saved 90% processing time of image cropping function with simplified image warping algorithm
· **Integrated Object Detection System of ID Cards into web application**
  · Developed object detection system for capturing frames with ID card in browser with Tensorflowjs

PROJECT

Google-Style Distributed Web Search Engine (Java)   Apr. 2022 - May 2022
Internet and Web Systems, University of Pennsylvania   *PA, United States*

· Consist of a distributed crawler, indexer, PageRank and front-end interface
· Responsibility: Built distributed crawler with StormLite (simplified version of Apache Storm) combined with database (AWS S3, AWS DynamoDB and BerkeleyDB) that can handle a million distinct web pages

Yelp-flavoured Website (Javascript)   Nov. 2022 - Dec. 2022
Database and Information System, University of Pennsylvania   *PA, United States*

· Responsibility: SQL Query Optimization, AWS deployment, frontend design with React

Mini Minecraft (C++)   Oct. 2022 - Dec. 2022
Interactive Computer Graphics, University of Pennsylvania   *PA, United States*

· Create an interactive 3D world exploration and alteration program in the style of the popular computer game Minecraft
· Responsibility: Player's physics attributes (collision and movement), texture loading and inventory system

TECHNICAL STRENGTHS

Programming Skills	Python, Java, Javascript, C++, OpenGL
Web Developement	HTML, CSS, Node.js, Express.js, React, React Native
Big Data Analytics	SQL, Pandas, R, Spark, Storm, MapReduce, AWS