Hwai-Jin (Isaac) Peng

2021 New Grad - Software Development Engineer / Full Stack Engineer

Homepage | hjpeng.isaac@gmail.com | andgitisaac | hjpeng

Education

University of Washington — *Seattle (WA), United States*

Master of Science - Electrical & Computer Engineering (**GPA: 3.94/4.0**) — *Sep. 2019–Jun. 2021*

- Courses: Computer Programming, AI for Engineers, Machine Learning for Big Data

National Taiwan University — *Taipei, Taiwan*

Bachelor of Science - Electrical Engineering (**GPA: 3.86/4.0**) — *Sep. 2014–Jan. 2019*

- Courses: Algorithms, Data Structure and Programming, Scientific Computing

Skills

Programming	Python, Java, C++, Bash, JavaScript, MATLAB, HTML, CSS
Platforms/Tools	Amazon Web Services (AWS), Linux, Git, GitLab, Bandit, Checkmarx
Frameworks/Libraries	MongoDB, SQLite, Flask, Django, ReactJS, Spark, Pytorch, Tensorflow

Work Experiences

Intel Corporation - CCG Chrome Multimedia Team — *Taipei, Taiwan*

Chrome Software Engineer Intern | Linux, Chrome OS, Python, JavaScript, Bash — *July 2020–Aug. 2020*

- Chromebook Test Automation Framework
  - Established a test automation web framework for Chromebook audio (SOF), graphics (GFX) and camera drivers.
  - Implemented a thread-safe manager to control the task database access and handle the test suites commands in the queue.
  - Engineered a thread suspension to allow 70% of CPU to enter C10 state (deep sleep) by halting idle threads to reduce power consumption.
  - Reduced test cycle time by 80% by integrating distinct test suites and redirecting results to web UI in real-time.
- Sound Open Firmware Integration Manager
  - Created a Linux command line simulator for advanced users to configure the deployment of firmware and topology.
  - Refactored and modularized the automation process of SOF deployment for distinct Intel CPU microarchitectures.

BravoAI Co., Ltd. (FinTech Startup) — *Taipei, Taiwan*

Software Engineer | Python, Flask, MongoDB — *Oct. 2018–Jan. 2019*

- Utilized Flask and MongoDB to build a RESTful web service of insurance policies management.
- Designed a user role hierarchy to determine the levels of access that users have to customer information.
- Deducted 20% of paperwork time by instantly notifying the agents through app and emails for new enrollments and reimbursements.

Projects

Minecraft Defense Tower Mod — *Seattle, Washington*

Minecraft Mod Development | Java — *Oct. 2020–PRESENT*

- Utilizing the Minecraft Forge, the most popular API for mod development, to hook into the Minecraft game engine to create mods and plugins.
- Creating versatile defense towers to add negative effects against hostile mobs to protect players.
- Overriding the event listeners to monitor the secured area and automatically attack or knock back the mobs.

Telenav, Inc. - An Incremental Learning Based Spell Checker for Local Search User Queries — *Seattle, Washington*

Engineering Entrepreneurial Capstone | Python, NLP — *Jan. 2020–Jun. 2020*

- Designed an address spell checker for English spell-checking and correction.
- Applied an incremental learning-based technique to provide updates to the learned model without further data preprocessing.
- Collected and built an evaluation dataset consists of three types of common misspellings.
- Achieved over 80% accuracy and < 40ms inference time on word level.

Citation Network Analysis: Prediction and Recommendation — *Seattle, Washington*

UW CSE 547 - Machine Learning for Big Data | Python, Pytorch, Spark, MariaDB — *Apr. 2020–Jun. 2020*

- Introduced the graph convolutional network (GCN) that jointly leveraged the information of network structure and the content of the documents.
- Developed a data pipeline to extract and preprocess the CoRA and DBLP citations from the MariaDB with a JSON stream parser.