Hsi-Sheng Mei

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Education

New York University, New York, NY — Sep 2019 – May 2021
Master of Science in Computer Science (Courant Institute), GPA: 4.0/4.0

National Taiwan University, Taipei, Taiwan — Sep 2014 – Jan 2019
Bachelor of Science in Electrical Engineering, GPA: 3.56/4.3

- **Coursework:** Fundamental Algorithms, Programming Languages, Data Structures, Computer Networks, Database Systems, Operating Systems, Computer Programming, Computer Architecture, Artificial Intelligence, Machine Learning, Computer Graphics, Multicore Processors

Skills

Programming Languages: C/C++, Python, JavaScript, Java, MATLAB, Verilog, Bash Script
Softwares/Tools: Linux, Docker, MySQL, scikit-learn, OpenGL, WebGL, OpenMP, SIMD, Multi-Threading, Git

Work Experience

Foxconn, Taipei, Taiwan — Nov 2017 – June 2018
Software Engineering Intern

- Improved the **web dashboard** of the **OpenStack** private cloud with **Django** and **Python**.
- Used **HTTP requests** to fetch and display status of virtual machines from the database to the front end.
- Created buttons in the dashboard to run scripts on virtual machines in the cloud.
- Utilized **Ansible** playbooks to configure deployment of OpenStack components in **Docker** containers.

Projects

Co-located Virtual Reality — Dec 2019

- Collaborated with a team of 4 to create a co-located multiplayer **virtual reality** game with **WebGL** and **Oculus Quest** headsets, where players decorate a gingerbread house together with candies and icing.
- Implemented the **collision detection** and **synchronization** system of the game using **JavaScript**.

Photorealistic Rendering of Soap Bubbles — Dec 2018

- Created a material plugin in a path-traced physically-based renderer for rendering the iridescence of soap bubbles by calculating the reflectance and transmittance of thin water films upon different incident angles using **C++**.

Machine Learning — May 2018

- Applied **neural network** models using **Keras** in **Python** to **classification** and **recommendation** tasks.
- Ranked **top 15%** in the **Kaggle** Contest of the **Image Sentiment Classification** task among 110 students in the Machine Learning class of NTU, using **CNN** models based on **VGG-19** and **voting**.

Pacman AI — Jan 2018

- Implemented **tree searching, heuristics** and **reinforcement learning** algorithms in **Python**, for Pacman to survive and win the game.

Gender Discrimination Analysis in Taiwanese Web Forums — June 2017

- Built **web crawlers** for large Taiwanese internet forums, *PTT* and *Dcard*, in **Python**.
- Implemented functionalities such as filtering with 100k+ forum posts with keywords, counting occurrences of keywords and plotting searched results.

PPG-Based Atrial Fibrillation Detection — June 2017

- Extracted features from recorded PPG signals of human body by applying various signal processing filters.
- Constructed a classification system using **Support Vector Machines**(SVM) in MATLAB with 99% accuracy.

And-Inverter Circuit Reduction — Jan 2017

- Implemented recursive **Monte Carlo** circuit reduction algorithms in **C++** to remove redundant gates for And-Inverter circuits with 10k+ gates.