

Hantao Liu

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OBJECTIVE

Software Development Engineer or Hardware Development Engineer

EDUCATION

University of Washington (UW), Seattle, WA

09/2014-12/2018

Bachelor of Science

- Major in Electrical & Computer Engineering in Embedded Computing System.

SKILLS & INTEREST

- Language/Technologies: Proficient in Python, Java, C, Verilog; Familiar with Linus, C++, HTML5, CSS, JavaScript, MATLAB; Experienced in Android, AWS.
- Interest: Software Development, Artificial Intelligence, Machine Learning, Embedded System.

PROJECT AND RESEARCH EXPERIENCE

Estimation of Passengers' Origin and Destination, STAR Lab, UW

09/2018 -present

- Used Python to reorganize data and compute all the features.
- Used Scikit-learn API to model data using Fuzzy clustering, Random Forest, and etc.
- In progress in writing research paper entitled *Transit Passenger OD Estimation from Mobile Sensing Data Using Clustering Algorithm* for future publishing.

Confusion Detector, Personal Project

12/2018 – 02/2019

- Used Microsoft Azure Face API to process pictures and trained a model using Random Forest.
- Used OpenCV to activate real-time camera and taking frame to feed the trained model.
- Completed the System which detected confusion faces and display on a website written in HTML at the frontend and server written in python with Flask and SocketIO at the backend.

Deep Learning Processor and Algorithm Research, SSR Lab, UW

01/2018- 06/2018

- Simulated a Convolutional Neural Network from You Only Look Once (YOLO).
- Implemented convolutional layer with padding, max pooling layer, Leaky ReLU, and etc.
- Quantized a YOLO model.
- Trained my own model using Darknet.

Search Engine, Data Structure and Algorithm, UW

09/2017- 12/2017

- Implemented a min-heap using array and successfully implement top-k sort.
- Implemented TD-IDF vector and cosine similarity for search engine.
- Used Adjacency list to build a graph for the websites.

Pipeline processor, Computer Design and Organization, UW

09/2017- 12/2017

- Built three major parts for the pipeline processor such as a register file, adder, and single-cycle processor.
- Used five-stage pipelining to build a five-stage pipeline processor.
- Resolved hazards using forwarding method and delay slots.

HSPICE Simulator, UW

01/2018- 03/2018

- Simulated HSPICE using Python.
- Implemented matrix stamping and Lower-Upper(LU) factorization.
- Plotted the graph of input voltage vs output voltage of a given circuit.

INTERNSHIP EXPERIENCE

Intern, Xinhui Tech Co. Ltd, Shenzhen, China

07/2015-09/2015

- Accurately debugged and prepared on publication of a smart phone app.
- Became familiar with HTML5 and involved in designing the layout of the app.