Liqin Zhang

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Education

Shanghai Jiao Tong University (SJTU), Shanghai, China *September 2017 - May 2021*
B.S.E in Electrical & Computer Engineering
Curriculum: Cryptography (A+), Artificial Intelligence (A), Operating Systems, Networks, Algorithms

Massachusetts Institute of Technology (MIT), Cambridge, MA *January 2019 - February 2019*
Electrical Engineering & Computer Science Exchange Program

Research Experience

Efficient Sampling based on Incremental Active Learning *May 2020 - August 2020*
Advisor: Xiaofeng Gao, Professor, Data Communication Engineering Laboratory

- Developed a cell image segmentation algorithm to extract the true positive samples for the experiment.
- Implemented entropy sampling to select the most informative samples to train the convolutional neural network.
- Applied the proposed model on a cervical cancer dataset from Alibaba; achieved a 3.7% improvement for AUC.

Attraction-Based Crowdsourcing Tasks Allocating Framework *December 2019 - January 2020*
Advisor: Xiaofeng Gao, Professor, Data Communication Engineering Laboratory

- Designed a novel attraction-based task allocating model to better represent the outsourcing in crowdsourcing.
- Employed an incentive mechanism for the rewarding system; helped improve data visualization using Seaborn.

Projects

Mini-Unix Shell and Mini-MongoDB *September 2020 - October 2020*
Course: Intro to Operating Systems

- Implemented an interactive bash-like shell, which supported redirection, pipe, built-in functions, quote syntax, signal detection, error handling and background jobs.
- Implemented a multi-threaded database like MongoDB, which supported reading queries, executing tasks in parallel, creating and destroying threads, synchronizing thread with mutex and error handling.

Multi-Agent Pac-Man Game *July 2020 - August 2020*
Course: Intro to Artificial Intelligence

- Administered multiple searching agents in Pac-Man using Dijkstra, Uniform cost, A* searching algorithms.
- Optimized the agents' decision behavior using Minimax, $\alpha - \beta$ pruning and Expectimax game theory algorithms.
- Utilized the Hidden Markov Model and particle filtering algorithms to update the belief distribution of ghost agents.

Commodity Data Mining: Exploration on Amazon Reviews and Ratings *March 2020*
The Mathematical Contest in Modeling (MCM) - Meritorious Winner (Top 6%)

- Applied Natural Language sentiment analysis on customers' reviews and constructed time-series scoring model.
- Conducted time series analysis on the product ratings, applied marked point process model evaluating the influence.

Work Experience

Advanced Micro Devices(Shanghai) Co., Ltd *December 2019 - July 2020*
Front-End Integration Engineer Intern

- Developed a graphical user interface using Bootstrap for **FeintHelper**, a Flask server integrated with chip design database, allowing end users to manipulate target files on the server, and was promoted to 200+ ASIC engineers.
- Designed and developed **AutoWaiver**, an extensible software supporting plugin catalog to generate uniform APIs.

Undergraduate Education Office, SJTU *September 2019 - May 2020*
Teaching Assistant for Academic Writing I & II

- Helped design in-class quizzes, held recitation sessions and office hours to guide first and second year students.
- Delivered special workshops on grading issues & teaching methods, gave a tutorial on literature searching strategies.

Skills

Programming Languages	C/C++, Python, MATLAB, OCaml, Perl, SQL, HTML, CSS, JavaScript, Verilog, Asssembly
Technology & Framework	Flask, Bootstrap, React, TensorFlow/PyTorch, OpenCV, Numpy/Scipy, CUDA, GMP Sklearn, Hadoop, NetworkX, Pandas, Alexa Skills Kit, Matplotlib, NLTK, Docker, Git