Yi ZHOU

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Education

Carnegie Mellon University (CMU) - School of Computer Science Pittsburgh, PA
Master of Science in Artificial Intelligence and Innovation May 2020
Courses: Introduction to Computer Systems, Natural Language Processing (in progress), Machine Learning (in progress)

The Hong Kong Polytechnic University (PolyU) Hong Kong
Bachelor of Science in Computing, Minor - Applied Mathematics (GPA: 3.85/4.00) Jun. 2018
Courses: Web Application Development, Database Systems, Data Structures, Software Engineering, OOP

Experience

XtalPi Inc. Beijing, China
Algorithm Engineer Intern Jun. 2018 – Aug. 2018

- Improved a molecule vectorization algorithm to be three times faster with Python by balancing multiprocessing load and reducing unnecessary computation and visualized the vectorization results using Python with Plotly.

PolyU, Internet Infrastructure and Security Research Laboratory Hong Kong
Research Assistant Jun. 2017 – Aug. 2017

- Developed an anomaly detector that raises alerts based on round-trip time and packet loss rate with Python.
- Used Python with Matplotlib and Pandas to preprocess and analyze the measurement results across the campus.
- Determined the major factors that correlate with the performance of the wireless network.

Massachusetts Institute of Technology, Geospatial Data Center Boston, MA
Student Assistant July 2016 – Aug. 2016

- Designed and implemented LearningBoard, an e-learning website with HTML, CSS, and JavaScript from scratch with features of course posting, file uploading, online quiz, code snippets, and authentication.
- Integrated VideoJS and Google Analytics to collect user behavior of viewing videos.

Selected Projects

Introduction to Computer Systems (15513), Individual Course Assignments, CMU Jun. 2018 – Aug. 2018

- Implemented `malloc`, `free`, and `realloc` with C by using segregated lists and clustering tiny memory blocks and ranked 4^{th} in memory utilization and 10^{th} in throughput in the class of 230.
- Implemented a concurrent caching Web proxy by multi-threading with semaphores in C and tested on real web pages.
- Wrote a cache simulator and optimized a matrix transpose kernel to minimize the number of misses on a simulated cache.

Data Analysis on Campus Wi-Fi, Final Year Project, PolyU Sep. 2017 – May. 2018

- Clustered Wi-Fi latency by drawing Q-Q plots and conducting kernel density estimation in Python (Jupyter).
- Trained a logistic regression model with cross validation to predict high latency with 69% precision and 70% recall.
- Retrieved data from Cassandra using Spark with Scala and from MongoDB with Python.
- Presented and explained analysis results to the staff of Information Technology Services Office (ITS) at PolyU.

Image Classification, Course Group Project, PolyU Oct. 2016 – Dec. 2016

- Designed an SVM majority vote algorithm to differentiate brainwaves of people viewing faces and landscapes.
- Implemented the algorithm using Matlab and achieved the highest differentiation rate in the class.

Development of a Campus-wise Social App, Independent Project May 2015 – Jun. 2016

- Led a team of three to develop a campus social app with features of meetup posting and instant messaging.
- Developed the frontend using JavaScript with AngularJS and the backend using Python with Django.
- Attracted more than 150 users via campus-wide promotion.

Skills

Programming Languages: Python (proficient), Java, C, Scala, SQL, Javascript, PHP, C++, Matlab
Technologies: Pandas, sklearn, Matplotlib, Linux, Django, Docker, AngularJS, HTML5, CSS, Spark, MongoDB, Git