Haocheng An

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EDUCATION

The University of Texas at Austin *Aug 2017 - Aug 2019*
Master of Science in Computational Science, Engineering and Mathematics
Master Report Title: Kalman filtering for state estimation of an advection diffusion PDE from sparse observation

The University of Texas at Austin *Jan 2014 - May 2018*
Bachelor of Science in Computer Science, CS *(With High Honors)*
Bachelor of Science in Mathematics, Mathematical Sciences *(With High Honors)*

SKILLS

Programming Language Java/C **Script Language** MATLAB/SQL/Python/HTML
Framework Junit/Spring/Dagger **Tools** AWS Lambda/DynamoDB/Elasticsearch/ElasticMapReduce

WORK EXPERIENCE

Software Development Engineer I, Amazon.com Services, Seattle, WA *Sept 2019-Present*
- Identify sellers follow restock nudge from 300M records in recommendation and 20M in shipment
- Write AWS Lambda Function to notify downstream platform team on sellers adopt the nudge daily
- Write EMR job to find wrongly added 8.2M records in DDB and eliminate them via SQS messages
- Implement Java parallel shadow read for 3 service migration jobs to make the process smooth
- Compare the shadow read difference by A/B test and log related metrics to dashboard in real time

Software Engineering Intern, Oracle Corporation, Boston, MA *May 2018-Aug 2018*
- Augment 12 extra metrics from meter report, remove duplicates walker result and post on Grafana
- Automate meter report to DB process by Python and write SQL queries to track server/user behavior
- Predict user number& aggregation file size using LSTM, regression and Bollinger Bands with error ~2%

Software Engineering Intern, Cisco Systems, Inc, Dallas, TX *Jun 2017-Aug 2017*
- Query more than 9000 result counts for each 4 nodes and 5 service ID from Kibana using Elasticsearch
- Predict count's normal interval for sparse count cases using statistical methods and ARIMA thoughts
- Develop Python micro service to alarm engineers when anomaly occur and deploy code to the Docker

Research Intern, Institute for Computational Engineering and Sciences, Austin, TX *Jun 2016-Aug 2016*
- Implement condition number estimation of matrices with dimensions 500~10000 using C and BLIS
- Improve the Matrix-Matrix multiplication from 17 GFlops to 23GFlops in C using advanced kernel
- Co-Plot the performance and accuracy of the estimations by MATLAB and compare with LAPACK

Undergraduate Assistant, College of Natural Sciences, UT Austin, Austin, TX *Jan 2015-Dec 2017*
- Offer guidance on math, physics and/or computer science problems to 10 students each week
- Provide advice to students on test preparation and taking strategies and course registration
- Grade the programming and proof homework for applied number theory class

HONORS AND AWARDS

Early membership (Junior Elected) of Phi Beta Kappa *Nov 2016*
Nominee of Unrestricted Endowed Presidential Scholarship by Department of Mathematics *Feb 2016*