Anthony Gao

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Work Experience

Jerry – Senior Software Developer   2019-2021

- Technical lead for insurance quoting backend: Migrated services out of monolith to microservices architecture based on AWS Lambda and ECS and developed automation services using Puppeteer to reliably increase quoting throughput >30x, while increasing number of conversions >15x and 6-month policy retention by >10%.
- Principal developer: Architected and developed the backend logic and API integrations to launch a new auto loan refinancing product with first sale in less than 4 months.

Parsehub – Software Developer   2017-2019

- Launched experimental WebRTC p2p proxy service with over 1800 daily active users; in charge of architecture design, full stack development (Electron and React), security, and project management.
- Refactored monolithic IP Rotation backend: migrated out external state to allow for replication and introduced green thread concurrency. Response latency decreased by over three times and SLA increased by at least two significant figures.
- Reworked continuous integration VM infrastructure using KVM to resolve memory and networking issues. Test failure due to infrastructure flakiness decreased by over five times without requiring additional compute.
- Added features to in-house automated Kubernetes cluster provisioner, including support for multi-master HA, storage provisioning using Ceph, Prometheus metrics monitoring and alerting, Grafana dashboards, and automatic SSL using cert-manager.

Stantec – Engineering Intern   2015 - 2016

- Implemented prototypes investigating potential of first-order reliability methods to assess risk from cracks found in pipelines by inline inspection.
- Developed visualization tool with xlwings to audit pipeline excavation reports, doubling speed of QA.

Education

University of Toronto   2012-2017

- Bachelors in Materials Science Engineering, Certificate in Engineering Business
- GPA: 3.72/4.00 (Honors: Dean's List All Terms)
- Awarded US Steel Undergraduate Scholarship for outstanding academic achievement

Online Courses   2013-present

- Udacity: Design of Computer Programs
- Coursera: Algorithms & Data Structures, Cryptography, Machine Learning, Programming Languages, Discrete Optimization

International Baccalaureate   2010-2012

- HL: Biology (7), English (6), History (6); SL: Chemistry (7), Maths (7), Spanish (6)

Publications

- *A. Gao*, S. Mukherjee, I. Srivastava, M. Daly, C. V. Singh, Adv. Mater. Interfaces 2017, 1700920. DOI: admi.201700920