Anton Chen

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TECHNICAL SKILLS

Languages: C, C++, Golang, Python, Java, JavaScript/TypeScript, SQL, R, MATLAB, Julia.

Frameworks and Libraries: NumPy/Pandas, TensorFlow, Scikit-learn, Matplotlib, Node.js, React.js.

Technologies and Tools: Git, Unix/Linux, Bash, AWS (Lambda, DynamoDB, EC2, CDK, etc.), GraphQL, Redis.

WORK EXPERIENCE

Amazon Web Services, Inc.
Vancouver, BC

Software Development Engineer Intern — *Auto Scaling*
May 2023 – Aug. 2023

- Overhauling the resource cleanup process for all Application Auto Scaling scaling policies to mitigate customer costs.
  - Implemented **Lambda** functions with an eventually consistent design, robustly identifying and deleting stale resources.
  - Leveraged sparse indexing and batched transactions on a **DynamoDB** table to efficiently scan and write deletion intent.

Tesla, Inc.
Fremont, CA

Software Engineer Intern — *Cell Engineering*
Jan. 2023 – Apr. 2023

- Augmented conveyor routing logic to redirect cells around faulted equipment at the Gigafactory Texas in Austin, TX.
  - Designed and presented a routing algorithm on a directed graph, identifying cells in linear time and recomputing paths.
  - Created a worker pool in **Golang**, processing **1 500** daily equipment updates and caching state to a **Redis** hash.
- Researched unsupervised statistical methods to improve cell defect detection during the manufacturing process.
  - Applied **kernel PCA** on high-dimensional cell manufacturing data, improving captured variance by **18%** for 2 PCs.

Amazon Web Services, Inc.
Vancouver, BC

Software Development Engineer Intern — *Auto Scaling*
May 2022 – Jul. 2022

- Extended the Amazon EC2 Auto Scaling public API in **Java** to support autoscaling on custom metrics via metric math.
  - Coordinated with engineers, product managers, and a doc writer across three teams to align customer experience.
  - Wrote a data access layer for composite **MySQL-QLDB** nodes to manage scaling configurations of over **230 000** users.
  - Feature impact of **180 million** compute hours per week, used in **10%** of all target tracking scaling policies. [**Blog post**]

VIPRE Security Group
Burnaby, BC

Software Engineer Intern — *Email Security*
Jan. 2021 – Aug. 2021

- Built a test automation framework in **Python** to automate backend testing, saving **40 hours** a week of manual QA.
- Parallelized existing policy testing logic with **Robot Framework**, reducing overall test suite runtimes by **65%**.
- Trained and mentored an intermediate software engineer on service architecture, team workflows, and the codebase.

PROJECTS

Safe Walk Trip Planner — *Hackathon Project (Pinnacle 2021)*
Sep. 2021

- Invite-only hackathon for the **top 50** national collegiate teams; built a webapp offering crime-data-driven trip planning.
- Devised a pathfinding algorithm in **JavaScript** by combining the Google Maps Directions API with FBI crime statistics.

Rubik's Cube Solver Neural Network — *Personal Project*
Aug. 2020

- Designed, trained, and tuned a deep neural network with **TensorFlow**, solving any Rubik's cube with **70%** success rate.
- Developed a data generation algorithm in **Python**, producing **8 million** scramble patterns and corresponding solutions.

EDUCATION

The University of British Columbia
Vancouver, BC

B.Sc., Combined Honors Computer Science and Statistics, Co-op
Expected Graduation: May 2024

- Cumulative average of **91% (4.0 GPA)**. Computer Science Scholarship, Stanley M Grant Scholarship in Mathematics, Ron Riddell and Roy Douglas Scholarship in Mathematics, Trek Excellence Scholarships (**top 5%** of undergraduates).
- *Coursework:* inference*, probability theory*, real analysis, optimization, ML, operating systems.   (*graduate-level courses)