

Education

University of Waterloo Bachelor's of Computer Science, 3.6 Cumulative GPA

2017 – 2022

Skills

- **Languages:** JavaScript, Python, Ruby, C/C++, Racket (Scheme), MATLAB
- **Web Dev:** Node.js + Express, React/Redux, GraphQL/Apollo, Ruby on Rails, Mocha/Chai, nginx, Flask
- **Data/ML:** SQL, MongoDB, NumPy, Pandas, PyTorch, Scikit-Learn, Tensorflow/Keras
- **DevOps:** Git, Unix, Docker/Kubernetes, AWS S3/EBS/CloudFront, TravisCI, Jira, GCP

Experience

Software Engineer Intern @ Tesla

May – Aug 2021 in Fremont

- Improved efficiency of part inspection and production line error analysis for engineers and technicians by over 50% by developing an all-in-one internal platform in React and GraphQL
- Cut average factory error response time in factory by 30% by consolidating quality control problems across all production lines and creating a technician notification center
- Improved specificity of security across internal apps by implementing keyword and role based permissioning using AWS Lambdas

Software Engineer Intern @ StackAdapt

Jan – Apr 2021 in Toronto

- Expanded potential client access to more than 150 million users on Spotify and SoundCloud by building out targeted audio ad campaign functionality in Ruby on Rails and React
- Created a master demo account environment to enhance sales team workflows and improve customer acquisition success, helping to achieve 1000 active ad campaigns
- Upgraded capabilities of ad campaign editor to allow for bulk editing, saving customers up to 2 hours per day

Software Engineer Intern @ KitchenMate

May – Aug 2020 in Toronto

- Increased projected revenue by 30% by expanding customer base to hospitals, through scoping out and building a full-fledged concierge app experience
- Created an internal asset management tool using AngularJS, streamlining operations processes and saving 10 total hours weekly
- Streamlined weekly inventory planning process by architecting and optimizing an inventory prediction model using TensorFlow/Keras
- Lead entire application redesign and styleguide creation in Figma, working with marketing and business teams

Software Engineer Intern @ KitchenMate

Sep – Dec 2019 in Toronto

- Boosted weekly average users by 5% by implementing a C2C2B referral program
- Decreased weekly food waste by 10% with a historical analysis tool in Jupyter Notebooks to evaluate inventory prediction scripts
- Improved customer satisfaction and saved culinary team 10 hours/week by analyzing meal success metrics and implementing a menu generation algorithm

Fullstack Developer Intern @ ConsenSys

Jan – Apr 2019 in Waterloo

- Bolstered frontend test coverage by 20% with Jest snapshot and pixel-match tests

Projects

EEG Seizure Classification github.com/rocky1638/eeg-seizure-detection

May 2020

- Classified seizures through EEG frequency data, using transfer learning with ResNet18 for the Neureka 2020 competition
- Preprocessed data using Numpy and Pytorch, using STFT (Short Term Fourier Transform) to extract frequencies and amplitudes, creating frequency/time heatmap for CNN input
- Achieved classification accuracy of 70%, placing 4th among all participants

Doggin' Dog GAN dogs.rockzhou.com

Aug 2019

- Trained and optimized a DCGAN on the Stanford Dog Image dataset, creating a CNN for generating, discriminating, and encoding images of dogs
- Deployed with Docker/docker-compose, AWS ElasticBeanstalk and CloudFront

Interests

- Photography, Rocket League, Mechanical Keyboards, Guitar, Fitness