Jason Tang

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Education

University of Toronto September 2017 - June 2021
Honors Bachelors of Science, Computer Science *CGPA 3.86/4.00*

University of Toronto September 2022 - December 2023
Masters of Science in Applied Computing

Teaching Experience

Teaching Assistant January 2020 - April 2020,
CSC148: Introduction to Computer Science, *University of Toronto* January 2021 - April 2021

- Instructed and mentored 30+ undergraduate students weekly through practical lab activities in both in-person and online environments.
- Hosted office hours to clarify complex concepts and guide students through assignment work.
- Graded and provided feedback on student assignments and examinations.
- Assisted in the development of new course material and exam questions.

Professional Experience

Software Development Engineer July 2021 - Present
Amazon

- Constructing a microservices-based TypeScript/React workflow summarizing shipment details for independent vendors to track inbound shipments to Amazon, which is currently used by over 450,000 sellers worldwide to manage 1.8 million unique shipments each week.
- Managing an annual budget of $150,000 to horizontally scale compute infrastructure in accordance to peak traffic events and long-term customer usage shifts based on host capacities found through stress testing experiments.
- Coordinating with and conducting deployments for 28 tenant teams to maintain and eventually deprecate the former monolithic platform hosting services that 63% of vendors currently use.
- Spearheading the development of customer access and deletion tools for personal data in accordance with emerging data privacy laws.
- Exploring approaches in using predictive analysis to automatically set personalized shipping preferences based on past behavior to reduce seller workload.

Data Science Intern May 2020 - August 2020

Royal Bank of Canada

- Developed a proof of concept cost analytics dashboard in ReactJS that identifies cost drivers in real time, empowering business leaders with actionable insights to manage budgets.
- Reduced monthly expenditure forecast errors by 11.7% by utilizing time series analysis with ARIMA, XGBoost and Recurrent Neural Networks on real time data.
- Pitched the project to top level business executives and hundreds of RBC employees, attaining a position as the top internal solution out of 9 total teams at the final project exhibition.

Data Scientist Intern May 2019 - August 2019

University of Toronto Information Technology Services

- Piloted an automatic job description to salary band classification tool by optimizing language models on historical assessments, reducing evaluation time from the scale of weeks to days.
- Employed layer-wise relevance propagation to illustrate the influence of individual input words on the predicted likelihoods of salary bands, thereby providing hiring managers with actionable insights to adjust job descriptions and attain desired salary bands.

Research

Undergraduate Researcher October 2020 - February 2022

Robot Vision and Learning Lab, *University of Toronto*

- Worked with Professor Florian Shkurti on exploring approaches for overcoming the impractical but commonly utilized assumptions of given task boundaries and identities within the field of continual learning for life-long image classification, with funding from LG Electronics.
- Adapted an energy-based method using model uncertainty as measured by output logit entropy from out-of-distribution detection research to detect task boundaries in an online setting.
- Applied online smoothing filters such as Savitzky-Golay and Kalman filters to reduce erratic energy score fluctuations between batches and distinguish boundaries with greater precision.
- Experimented with energy-based models to perform task identity recognition while utilizing negative sampling and a core set of previous task exemplars to reduce catastrophic forgetting.
- Detailed reasoning behind specific approaches and presented biweekly experimental progress reports to the corporate sponsor.

Skills

Languages Python, Java, SQL, TypeScript, JavaScript, C.

Frameworks PyTorch, Keras, React.

Tools Git, Unix, Bash, AWS, Android.