

Yuchen Wang

Passionate software engineer and researcher, striving to solve challenging real-world problems.

LINKS

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EDUCATION

Stanford University

SEPT 2021 - PRESENT

Master of Science in
Computer Science
cGPA: 3.53/4

University of Toronto

SEPT 2017 - JUNE 2021

Honours Bachelor of Science
Computer Science &
Statistics, minor in
Mathematics
cGPA: 3.98/4, Course Avg.: A+

AWARDS

(Jan 21) *Konrad Group Women in
Technology Scholarship* \$2000
(Jan 21) *The Dorothy Walters
Scholarship* \$2000
(May 20) *UofToronto Excellence
Award* \$6,000
(Dec 19) *The Dorothy Walters
Scholarship* \$600
(All years) *Dean's List Scholar*

SKILLS

Specialized

Python • C • Unix/Linux • \LaTeX •
Git • JavaScript • ReactJS •
HTML & CSS

Familiar

R • C++ • MatLab • SQL • Java
(Android)

Machine Learning Libraries

NumPy • PyTorch • Pandas •
Matplotlib • ggplot2 • SciPy •
Scikit-learn • OpenCV2

WORK EXPERIENCE

Microsoft | APPLIED AND DATA SCIENTIST INTERN - BING

June 2022 - September 2022 | Mountain View, CA

- Generated different levels of negative data for language retrieval models using Approximate Nearest Neighbor on Euclidean distance of encoded query vectors.
- Designed new evaluation metrics that are universal for all natural languages (including URL overlap rate and modified BLEU/Rouge scores) to calculate relevance scores among search queries and docs.
- Developed a pipeline that effectively evaluates query-doc relevance scores using Transformer-based models.
- Technologies: Python, PyTorch, Pandas, SQL

Ernst & Young | TECHNICAL CONSULTANT INTERN (SOFTWARE)

June 2021 - August 2021 | Shanghai, China

- Developed a software pipeline to help an aviation authority automate extracting parameter values from graphic interfaces, which takes real-time video stream as inputs, and outputs formatted data.
- Applied optical character recognition machine learning models (CNN-RNN and open-sourced software) and ran experiments on a dataset from the client.
- Communicated closely with clients, wrote detailed documentations and proposal for the project workflow.
- Technologies: Python, OpenCV2, Pandas, Docker

Vector Institute | MACHINE LEARNING INTERN - PROF. ROGER GROSSE

April 2020 - January 2021 | Toronto, Ontario, Canada

- Designed and implemented hypernetwork algorithms (Self-Tuning Networks) to auto-tune hyperparameters of neural networks during a single run.
- Applied the algorithm on training Bayesian Neural Networks. The experimental results showed that the new architecture helps solving the difficult posterior collapse problem.
- Proven the related mathematical theories.
- Technologies: Python, NumPy, PyTorch, Autograd, Slurm

University Health Network | MACHINE LEARNING INTERN - PROF. BO WANG

May 2019 - December 2019 | Toronto, Ontario, Canada

- Worked with clinicians of Toronto General Hospital to design a data processing pipeline for electronic health records time-series.
- Engineered modular code for RNNs, Transformers and tree-based models.
- The final models accurately predict one-year and two-year outlook cause of death for post-organ-transplant patients with 0.7-0.8 auc-roc.
- Technologies: R, Pandas, Python, NumPy, PyTorch, Scikit-learn

PROJECTS

Smart and Secure Exchange | May 2022 - Present

Developed a web app that allows users to post needs for currency exchange, chat with others, and review transactions. Contributed to front-end and back-end development using JavaScript MERN stack.

Project X Research Competition | September 2020 - November 2020

- Led the UofT team to develop a new neural ordinary differential equation architecture, which learns the dynamics of time series with multiple predictors and beats the baseline models in performance.
- Applied the model on semi-synthetic plant disease datasets and achieved remarkable results in both extrapolation and interpolation.
- Awarded a \$20,000 prize as a winner. [[ICML 2021 workshop](#)]

ASA Datafest | June 2020

Led a student group to develop BERT models that classifies sentiment for COVID-19 related tweets, then performed data analysis and visualization.