

Rachel Kim

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Education

University of Toronto <i>Honours B.Sc.: Computer Science Specialist, Mathematics Major</i> — cGPA: 3.92 / 4.00 — Select Computer Science Courses: Topics in Algorithms: Mathematical Foundations of Algorithmic Fairness (Graduate Course), Algorithms for Private Data Analysis (Graduate Course), Natural Language Computing, Artificial Intelligence, Algorithm Design, Analysis and Complexity, Databases, Machine Learning, Algorithmic Game Theory and Mechanism Design, Enriched Data Structures and Analysis — Select Mathematics Courses: Analysis I and II, Probability and Statistics I, Algebra I and II	Toronto, ON, Canada Sep 2020 - Jun 2024
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Research Experience

Computational Social Science Lab , University of Toronto <i>Research Assistant</i> , advised by Professor Ashton Anderson — Research Project: Quantifying Public Discourse on Policy Issues, with a case study on Universal Basic Income (UBI) on Reddit — Extracting Reddit comments' stances on policy issues and leveraging topic modelling to discover key concerns within a policy issue — Applying Reddit community embeddings to quantify the impact of a community's age, gender, partisan leaning, and affluence levels on opinions and discussions surrounding a policy — Processing and analyzing a dataset of > 1 million Reddit comments in Python using jupyter, pandas, pyspark, nltk, gensim, Hugging Face transformers, and langchain; visualizing data using matplotlib, seaborn	Toronto, ON, Canada Jun 2021 - Present
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Department of Computer Science , University of Toronto <i>Research Assistant</i> , advised by Professor Peter Marbach — Research Project: Understanding Influence on Social Media — Applied and tested a pre-existing theoretical model of communities, their structural properties, and influence on real-world Twitter data — Leveraged clustering algorithms, principal component analysis, and statistical tests — Processed and analyzed a MongoDB database of > 100,000 tweets in Python; visualized data using matplotlib, seaborn	Toronto, ON, Canada May 2023 - Aug 2023
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BMO Lab , University of Toronto <i>Machine Learning Research Assistant</i> — Contributed to research efforts in the intersection between art, performance, emerging technologies, and artificial intelligence (AI) — Read and summarized research papers on BigGAN, CLIP, and DALL-E — Preprocessed and cleaned play scripts using regex; performed experiments using pytorch	Toronto, ON, Canada Oct 2020 - Mar 2021
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Publications

Non-Archival Venues

Quantifying Public Discourse on Policy Issues: A Case Study of Universal Basic Income Discussions on Reddit

Rachel Kim, Veniamin Veselovsky, Ashton Anderson

Oral Presentation at the *International Conference on Computational Social Science (IC2S2)*, Jul 2022

Assessing the Impacts of COVID-19 on Reddit
Veniamin Veselovsky, **Rachel Kim**, Ashton Anderson
Oral Presentation at the *International Conference on Computational Social Science (IC2S2)*, Jul 2022

Working Papers

Capturing Dynamics in Online Public Discourse: A Case Study of Universal Basic Income Discussions on Reddit
Rachel Kim, Veniamin Veselovsky, Ashton Anderson
In preparation.

Awards and Honours

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- Daniel Berlin Scholarship (~ \$1,400 CAD), University of Toronto, 2024
 - The Marion Edith Binning Scholarship (\$1,000 CAD), University of Toronto, 2023
 - Natural Sciences and Engineering Research Council of Canada (NSERC) Undergraduate Student Research Award (USRA) (\$7,500 CAD), NSERC, 2023
 - The Robert C. Dowsett Scholarship (\$1,000 CAD), University of Toronto, 2022
 - The Professor R. K. Arnold Scholarship (\$1,000 CAD), University of Toronto, 2021
 - Laidlaw Undergraduate Research and Leadership Scholarship (\$10,000 CAD), Laidlaw Foundation, 2021
 - C. David Naylor Scholarship (\$20,000 CAD), University of Toronto, 2020
 - President's Scholar of Excellence (\$10,000 CAD), University of Toronto, 2020
 - Dean's List Scholar, University of Toronto, 2020-2023

Teaching Experience

Department of Computer Science, University of Toronto
Teaching Assistant, CSC258: Computer Organization
Toronto, ON, Canada
Jan 2023 - Present

- Teaching a curriculum including digital logic circuits, memory storage devices, and machine languages in the Winter 2023 and Winter 2024 semesters
- Supervised and aided > 30 students in weekly labs and marked lab reports, tests, and exams

Industry Experience

TELUS
Software Development Intern, Architecture Practice Enablement (ArchPE) Team
Toronto, ON, Canada
Sep 2022 - Dec 2022

- Automated KPI calculations and dashboards through Google Data Studio and JavaScript, saving > 1 month of time across the ArchPE Team
- Added capabilities to Backstage software templates used internally by > 50 teams using JavaScript, Docker, Google Cloud Platform (GCP), and Git
- Designed and developed APIs using Postman and PHP

Community Involvement

Computer Science Undergrad Affairs Committee, University of Toronto
Student Representative
Toronto, ON, Canada
Sep 2022 - Present

- Representing the undergraduate voice in weekly meetings discussing academic policy and services that impact > 1,200 students with professors and departmental staff

makesense Mexico
Project Management Leader
Mexico City, Mexico
Jul 2022 - Aug 2022

- Worked with Nidaria, an organization in Mexico City that collects organic waste from customers' homes and converts it into farm animal feed for local farmers
- Recruited and co-led a group of seven volunteers to interview customers, created a video on Nidaria's impact, and hosted a Sustainability Festival with an attendance of > 40

- Succeeded in getting an additional 43% of the existing customer base to indicate high interest in subscribing to Nidaria

Computer Science Student Union, University of Toronto

Toronto, ON, Canada

Director of Academic Events

Sep 2020 - May 2022

- Led events like tea time with professors, research seminars, and study sessions for > 1,200 computer science students

World University Service of Canada, University of Toronto

Toronto, ON, Canada

Social Media Coordinator

Sep 2020 - Apr 2022

- Supported the acclimation to Canada for two refugee students as they started their studies at the University of Toronto
- Raised awareness of refugee and education issues

Compassion Korea

Remote

Korean-English Translator Volunteer

Sep 2017 - Apr 2021

- Translated letters between sponsors and sponsored children weekly from Korean to English and vice versa