Karolina Tchilinguirova

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Education

York University BSc in Computer Science — Expected: Dec. 2025

- **GPA:** 3.5/4.0
- **Awards:** Three-time recipient of the Lassonde Undergraduate Research Award ($24,300)

Queen's University BSc in Geological Science — Graduated: Dec. 2019

- **Certificate** in Geographic Information Sciences

Experience

Research Assistant / **Full Stack Developer**, DARE! Lab at York University — Sept 2024 – Current

- Spearheading the development of **CiteFairly**, an online tool designed to analyze biases in research citations, generate citation diversity statements, and leverage AI to recommend research papers that address citation biases by promoting balanced referencing.
- Implementing a **full-stack solution** using **Google Firebase**, **Node.js**, **React**, **JavaScript**, and **Tailwind CSS**
- Integrating external APIs such as **OpenAlex**, **Semantic Scholar** and **Gender-API** to extract and classify reference data based on author demographics.
- Preparing a conference paper for the **2025 International Conference on Automated Software Engineering**.

Undergraduate Researcher (Award Recipient) DARE! Lab at York University — May 2024 – Aug 2024

- Research focus on **detecting and mitigating citation biases in computing literature**
- Analyzed **90,000 papers** from top software engineering journals and identified a consistent trend in literature where women are under-cited and men are over-cited, with this disparity steadily increasing since 2009.
- Utilized **Python** and **R** to conduct analyses, stored data using **MongoDB**, leveraged external APIs including **CrossRef** and **Gender-API** to extract and classify reference data based on author demographics.
- Presented at the 2024 Lassonde Undergraduate Research Conference and the 2024 Canadian Celebration of Women in Computing Conference - Open Source Repository **[GitHub]** - Preprint available on arXiv **[arXiv/2410.02801]**

Undergraduate Researcher (Award Recipient), GNSS Lab at York University — May 2023 – April 2024

- Research focus on **exploring AI applications in Global Navigation Satellite Systems**
- Utilized **Python** to conduct analyses and leveraged Machine-Learning package **Scikit-learn** to classify the quality of smartphone positioning data points to 92% accuracy.
- Presented an independent summer project at the 2023 Lassonde Undergraduate Research Conference. **[Research Poster]**
- Collaborated with a post-doc and a PhD candidate to co-author a conference paper.

Publications

Improving Smartphone Positioning by Adapting Measurement Noise Covariance using Machine Learning — Sept 2024

Anurag Raghuvanshi, ***Karolina Tchilinguirova***, Soroush Sasani, Sunil Bisnath — 10.33012/2024.19761

Projects

eCommerce Store — GitHub Live Demo

- Developed an eCommerce Store with product pages, shopping carts, user accounts, and admin panel using **React**, **TypeScript**, and **Tailwind CSS**.
- Implemented a dynamic store catalog in **Flask** and **MongoDB** that stores item details and forwards images from an **Amazon S3 Bucket**.
- Server deployed with **Render** and client deployed with **Vercel**.

RollCall - Personalized Stand-Up Report Generator — GitHub Live Demo

- Developed a web app integrating with **Google Calendar API** to generate personalized daily roll-call summaries and insights into schedule structure.
- Built the backend using **Flask** and **MongoDB** managing user data and retrieving calendar events securely via OAuth2 authentication. Implemented a user-friendly interface using **React** and **Tailwind CSS** for seamless interaction.
- Configured and managed the project on **Google Cloud Platform (GCP)**, enabling API access, creating API keys, and implementing OAuth2 for secure user authentication.

Technologies

Languages: Python, R, Java, SQL, JavaScript, TypeScript **Frameworks & Libraries:** Node.js, Express, Flask, React, TailwindCSS
Databases & Platforms: MongoDB, Firebase, Render, Vercel, Google Cloud Platform
Development Tools: Linux, Git, GitHub, VS Code, PyCharm, IntelliJ IDEA, Eclipse, Figma