Andrew Pols

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Education

BSc., University of Toronto 2024 - 2028

- Specialism in **Computer Science**, Major in **Statistics** **cGPA: 4.0/4.0**
- Relevant coursework: Data Structures & Analysis, Software Design, and Probability, Statistics & Data Analysis

Projects

FindMySound – Music Recommender Web App

- Developed a full-stack web application with **Django** and **ReactJS** that utilizes the Spotify Web API to collect user playlists and provide curated music.
- Recommended music through the K-Nearest-Neighbours **Machine Learning** algorithm with cosine similarity.
- Maintained a user base through a custom user model, with authentication handled by Django's **Simple JWT**.
- Created RESTful API endpoints to handle authentication, Spotify account syncing, and recommendations.

ScholarSearch – Graph-Based Search Engine for Research Papers

- A web app displaying graph-based visual networks with **D3.js** for viewing scholarly papers on a given query.
- Utilized fundamental Computer Science concepts including Graphs and Object Oriented Programming.
- Managed a database of papers with **FastAPI** and **PostgreSQL**, embedding papers into vectors with a BERT.
- Stored embedded vectors with **ChromaDB** for efficient vector-lookups.

Canadian Social Connection Survey – Statistical Analysis

- Utilized **Statsmodels** to find statistically significant multiple linear regression and bootstrapping ($p < 0.05$).
- Discovered that those who work from home have a higher perception of their accomplishment to burnout.
- Formatted results through visualizations using histograms and kernel density estimator plots with **Matplotlib**.

Computer Vision Sudoku

- Developed a software that processes images and live video of a Sudoku grid to solve the puzzle.
- Leveraged **OpenCV** classes including Hough Line Transforms to perform line-detection on a flat plane.
- Performed Optical Character Recognition with **Tess4JS** to read each tile's digit into the solving algorithm.

Experience

Lead Robotics Programmer, Team 4940 2023-2024
FIRST Robotics

- Led a programming team to design, test, and deploy software for robots using **Java, Swerve-Drive, & WPILib.**
- Used **modular programming** and **OOP** to make functional intake, elevator, and swerve subsystems.
- Collaborated with mechanical and electrical subteams to ensure software matched performance expectations.
- Engaged in fast-paced troubleshooting with as little as 20 minutes between matches during competition, leading the team to a provincial placement.

Awards & Distinctions

- University of Toronto Dean's List Scholar 2025
- Universty of Toronto Scholar: **$10,000** 2024
- The Governor General's Academic Medal (Secondary School) 2024
- Valedictorian, Holy Names High School 2024

Technical Skills

- Programming Languages: Python, Java, JavaScript/JSX/HTML/CSS
- Frameworks & Libraries: Django REST, Node.js, ReactJS, GSAP, OpenCV, Scikit-learn, Statsmodels, Pandas
- Tools: Git, Docker, Nginx, Gunicorn, PostgreSQL, Agile, JWT