

# Polyna German

polynagerman@gmail.com • 437-663-3646 • [linkedin](#) • Toronto, ON, Canada

## EDUCATION

### University of Toronto

Toronto, ON

*Honors Bachelor of Computer Science and Economics, minor in Statistics*

Class of 2027

Relevant Coursework: OOP, Linear Algebra, Mathematical Analysis, Multivariable Calculus, Microeconomics, Macroeconomics, Data Analysis, Data Science, Big Data tools for Economists, Software Design, Statistics, Data Analysis, Theory of Computation, Modern Symbolic Logic, Science of Human Nature.

## WORK EXPERIENCE

### Gexateq

Minsk, Belarus

*Software Engineer*

July 2024 – September 2024

- Developed the backend of a banking application using FastAPI for services, SQLAlchemy for database interactions, and PostgreSQL for data management.
- Managed containerization with Docker, orchestrated services with Docker Compose, and handled database migrations using Alembic, Celery for task scheduling.
- Utilized Git for version control, DBeaver for database management, pytest for unit testing, and Poetry for virtual environments.

### Canadian Economics Association

Toronto, Canada

*Research Assistant*

April 2025 - Present

- Collected and analyzed faculty and graduate student data from Canadian university economics departments.
- Used ChatGPT and recent academic methods to infer demographic information (gender and race) from names.
- Created visual summaries and drafted research findings for presentation and academic reporting.

## PROJECTS

### Boom vs Bust: The Impact of Economic Cycles on Patent Litigations

January 2025 – April 2025

- Aggregated and analyzed court case durations, correlating them with economic indicators like GDP, education levels, and personal income using Python (Pandas, NumPy, Matplotlib, Seaborn, Sklearn).
- Utilized machine learning techniques (Regression Tree, Bagging, and Random Forest) to analyze the impact of economic cycles on patent litigation trends, and integrated data via an API, web-scraping.

### Spydle Game

October 2024 - December 2024

- Developed the frontend of a multiplayer word game using Swing and assisted in transitioning to React for improved UI/UX.
- Utilized Spring Boot for backend integration and real-time gameplay features.

### Conflict escalation prediction

December 2023

- Utilized XGBoost, Transformer, and FeedForward Neural Network models to analyze factors contributing to conflict escalation and compared their performance.
- Identified key factors influencing conflicts and recommended the most suitable model for accurate predictions based on analysis.

## SKILLS

**Programming Languages:** Python, Java, CSS, HTML, R, SQL

**Technologies & Tools:** REST API, SQLAlchemy, Docker, docker-compose, Spring Framework, Swing, React, PostgreSQL, Power BI, Alembic, Git, DBeaver, NumPy, Pandas, Matplotlib, Seaborn, Jupyter Notebook, Matplotlib, Redis, Celery, Poetry, Microsoft Suite, VSCode, JetBrains Toolbox.

**Languages Spoken:** English, Belarusian, Russian, Polish