Arbel Groshaus

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Portfolio: arbel.gr

University of Waterloo / Bachelor of Applied Science, Mechanical Engineering

EDUCATION

University of Waterloo, Waterloo — *Candidate for BASc, Mechanical Engineering*

SEPT 2022– JUNE 2027

Completed and achieved an GPA of **3.75** in **Mechanical Engineering** courses, including **Calculus**, **Statistics**, **Circuits**, **Mechanics**, and **Programming** (C++, MATLAB, and PLC systems)

EXPERIENCE

Rosalind Advisors, Toronto— *Programmer and IT integrator*

SEPTEMBER 2024–DECEMBER 2024

Streamlined long and redundant formulas in the company's portfolio manager spreadsheet, and extended functionality to automatically pull in market data from an API provider using **VBA macros**

Created searchable database within **Google Sheets** to enable analysts to track biotech companies' performance

Engineered an automated **ETL pipeline** using **Python** and shell scripts to download and transform data from a remote FTP server into structured Excel files

Built web app using **TypeScript** and **React** with **OpenAI** integration in order to help analysts quantify data only available as a graph, and deployed to **AWS Lightsail** instance

St. Jerome's University, Waterloo — *Research Assistant (language data analysis)*

JANUARY 2024–APRIL 2024

Developed **Python scripts** to parse etymological data from the online dictionary Wiktionary and created **GUIs** to visualize etymological relationships between over **35,000,000 terms** across thousands of languages

Developed processes to organize over **1,000,000 quotations** from the *Oxford English Dictionary* and match them with works in Google Books

Concord Screen, Newmarket — *Quality Control Engineer*

MAY 2023–AUGUST 2023

Inspected **1000+** machined parts using precision measuring devices to ensure that all dimensions were within specified tolerances

Reviewed **engineering drawings** to ensure that complex parts conformed to the correct shape and dimensions to and reduced product defects by **90%+**

PROJECTS

arbel.gr — *Personal website & portfolio showcase*

NOVEMBER 2024–

Rented a domain and an **Amazon EC2** instance to host a website for my **personal projects and other work**

Wrote custom web server in **Rust** to ensure maximum reliability and to implement low-level socket handling, including integration with **Postgres**, a simple event loop system, and a chat box implemented using **websockets**

SKILLS

Engineering Skills: Excel/Google Sheets, SOLIDWORKS, AutoCAD, GD&T, PowerPoint/Google Slides, circuit design/analysis, oral and written communication

Machining Skills: 3D printing, laser cutting, welding, and other machine shop equipment

Programming Skills: Python (also numpy and pandas), regex, Rust, HTML, CSS, JavaScript, TypeScript, Lua, MATLAB, Java, C, C++, SQL, VBA, Lua, Zig, Haskell