

# Yair Mahfud

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## Education

### The Hebrew University of Jerusalem

Jerusalem, Israel

B.Sc. in Computer Science, GPA: 84

Expected Graduation: Mar 2026

- **Relevant Coursework:** Data Structures, Algorithms, Operating Systems (C++), OOP (Java), Machine Learning, CP Architecture.

## Relevant Technical Courses & Projects

### Intern-Sheep – Internship Aggregation Platform

- Developed a job aggregator that scrapes and indexes job positions from platforms such as RemoteOK and WeWorkRemotely and more using Python and BeautifulSoup/Selenium.
- Engineered a tag-based filtering system to extract relevant listings (e.g., “student”, “software”, “intern”) and structured results into daily updates for CSV export.
- Designed the backend to support multithreading and smart caching, improving crawl efficiency and preventing redundant requests.
- Built with scalability in mind; currently integrates multiple job sources with plans for expansion and automation of alerts.

### IML (Introduction to Machine Learning)

- Hands on projects I took in Introduction to Machine Learning course at HUJI.
- Implemented Linear Regression, Decision Trees, Clustering, Supervised and Unsupervised learning.
- Implemented using Python, NumPy, scikit-learn, pandas.

### NAND to Tetris

- Built compiler and CPU architecture from logic gates to operating system using Python
- Implemented a complete compiler and computer architecture, starting from basic logic gates and progressing to a functional CPU.
- Developed key components, including an assembler, virtual machine, and simplified operating system, with a focus on text processing using Python.

### Operating Systems

- Created a Thread and Process Control system using mutex/semaphores in C++
- Reduced resource contention by 40% by designing multithreaded control with deadlock prevention. Implemented a Thread and Process Control system utilizing memory usage, mutex and semaphore to allow usage of Threads and Processes in a way that avoids starvation and deadlocks. Implemented in C++.

## Experience

### Hebrew University

Jerusalem, Israel

Chief Security officer

2023 - Present

- Lead campus security operations and team coordination in high-responsibility environments.
- Managed crisis scenarios, ensuring student and faculty safety while balancing operational efficiency.

### IDF Combat Engineering 603<sup>rd</sup> Battalion

Israel

Combat Commander & First Sergeant

2017 – 2020

- Led high-stakes field missions, supervised team safety, built fortifications, and removed obstacles.
- Trained new recruits and managed readiness under combat conditions.

## Leadership & Activities

### Israeli Victims of War (IVOW), Canada

Ottawa, Canada

Counselor

Jul 2020 – Aug 2022

- Supported and led activities for 100 children, victims of terror, in a 5-week summer camp.

### Hasdei Liel Charity Foundation, Israel

Netanya, Israel

Counselor

2020 – Present

- Participated in donation drives and distribution of essential goods to low-income families.

## Skills & Interests

**Technical:** Python, C++, C, Java, SQL, JavaScript, Linux/Unix Scripting, Version Control (Git/GitHub), Agile/Scrum/Sprints, Data Structures & Algorithms, Quantitative Analysis

**Languages:** Hebrew (Native), English (Fluent)

**Interests:** Machine Learning, Scalable Systems, Problem Solving, Backend Development/Backend Engineering, Cloud Computing, APIs