

EREN FILIZ

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HIGHLIGHT OF SKILLS

- Proficient in **Python, Java, Bash, C, MIPS Assembly**, and **R** programming languages.
- Foundational knowledge in **UE5 Game Development** and **Windows Server Systems 2016**.
- Experience in **academic research, article analysis, and formatting**.

EDUCATION & AWARDS

Bachelor of Science (Co-Op), University of Toronto (2nd Year) GPA: 3.9/4.0 (Expected) 06/2028

- Specialist in Computer Science & Minor in Economics/Statistics

International Scholar Award, University of Toronto (\$100,000) 2024

PROJECTS & ACADEMIC PAPERS

Fragrance Recommendation Application (Python) Summer 2025

- **Reformatted a data set of 22,840 unique perfumes** using Python, eliminating redundancies and optimizing the dataset **for use in CSV and JSON formats**.
- Implemented an **object-oriented graph structure in Python**, modeling the fragrance market by mapping relationships between perfumes and associated ingredients.
- Developed **graph-based recommendation and comparison algorithms in Python**, enabling personalized perfume suggestions and tools for large-scale market analysis.

HireMatch - Talent Matching & Recruitment Platform (Java) Winter 2025

- Designed a talent-matching platform powered by **profile-based semantic recommendations**.
- Implemented **Data Access Objects** for APIs including **MongoDB Atlas** and **Pinecone**.
- Worked remotely with a diverse team of six people through **GitHub** using **branching workflows, pull requests, and code reviews**.
- Applied **Clean Architecture** rules in my code, improving its maintainability and future scalability.

Columns Game (MIPS Assembly) Winter 2025

- Developed a simplified version of the classic Columns game using MIPS assembly, strengthening my **understanding of low-level architecture and instruction-level program control**.
- Gained hands-on experience implementing **game visuals and sound effects at the hardware level**.
- Learned to **design efficient code under hardware and memory constraints**.

Terminal Snakes Battleground - (Bash and C)

- Developed a terminal-based multiplayer battle royale game using **client-server architecture**.
- Implemented **TCP socket communication** between server and client programs, allowing players to join the game and send **real-time movement commands** through separate devices.
- Used **file descriptor sets** to improve server stability, responsiveness, and overall multiplayer gameplay flow.

Co-Author, Research Trends on the Use of Digital Games for High School Students: A Literature Review

- **Secure URL:** <https://tinyurl.com/ERPA-Congress-2023>
- **Analyzed and classified** more than 40 **academic articles on gamification and game-based learning** to identify overlapping research trends.
- Generated graphical representations using **Microsoft Excel**, increasing readability and visual appeal.
- **Drafted the final paper** using academic formatting techniques and **APA7 citation standards**.
- Generated **visual and audio presentations using Canva and Camtasia**, sharing the findings of the paper with academicians and the jury.