Radmehr Vafadar

3rd Year Undergraduate | Computer Science | Queen's University | Matcha & Boba Enojoyer

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Education

Queen's University Kingston, ON

Bachelor of Computer Science (Hons.) specialization in Artificial Intelligence *Aug 2023 – May. 2027*

Relevant Coursework: Numerical Optimization for AI, Operating Systems, Database Management Systems, Data Structures and Algorithms, Computer Architecture, Software Architecture

Google CyberSecurity – *Professional Certificate* *Jun – Aug. 2025*

Experience

Distributed Systems Engineer | *Python, Kafka, Java, Git, Github* *Sept 2025 – Present.*

- Implemented a real-time **distributed video streaming** pipeline using Kafka, Python, OpenCV, and Flask
- Achieved seamless transmission and web-based playback of video frames from multiple sources
- Designed the system to support both live webcam and video file inputs
- Created scalable architecture for multi-producer and multi-consumer setups across Kafka clusters
- Leveraged Docker for consistent environment setup and simplified deployment of Kafka and Zookeeper services

Teaching Assistant | *C, x86 Assembly, GDB, Unix/Linux, Bash* *Sept 2025 – Present*

Stephen J. R. Smith Faculty of Engineering and Applied Science at Queen's University *Kingston, ON*

- Mentored **760+ students** through a series of complex C labs `\_(*_*)_/`
- Taught CPU-level debugging, reverse engineering, and memory/register analysis
- Automated tasks by writing advanced Bash scripts, leveraging pipes, I/O redirection and command-line tools
- Guided students in analyzing the stack and tracing x86 assembly using GNU Debugger (gdb)
- Successfully utilized buffer overflow bugs and register exploits to complete attack labs
- Enhanced software quality by designing and deploying an AI-powered testing strategy on GitHub Actions, which automatically generated exhaustive test suites to increase coverage by 40% and reduce bugs.

Projects

AI Fake News Detector | *Python, scikit-learn, pandas, numpy* *Jul – Aug. 2025*

- Developed a machine learning model to classify news articles as FAKE or REAL using TF-IDF vectorization
- Achived a **93% accuracy in detecting fake news** by using a Passive Aggressive Classifier
- Packaged and automated the full training and evaluation process in a single executable script with 44 lines
- Optimized feature extraction through stop-word filtering and max document frequency tuning, improving robustness against biased or redundant linguistic patterns

Arcade Portfolio | *JavaScript, ThreeJs, React, Vercel deployment* *Jul – Aug. 2025*

- Architected an interactive 3D portfolio experience, integrating a fully navigable Three.js arcade scene
- Engineered a modular TypeScript-based SPA, combining a static game, blog, and resume hub in a Vite system
- Developed a dynamic front-end pipeline with React, react-three-fiber, and drei
- Implemented camera interpolation, **shadow mapping**, volumetric clouds, and object animations for visual depth
- Utilized super secret ingredient (Lots of love and care)

Mine Sweeper | *Python, Pygame, Aseprite, nostalga* *Aug 2025 – Present.*

- Developed a Minesweeper game in Python using Pygame, with a dynamic 16x16 grid
- Implemented logic to display the number of adjacent bombs after each user click | (•‿•)|
- Created a water fill algorithm to automatically reveal all connected empty tiles, improving efficiency by 80%

Leadership

Computing Students' Association *May 2024 – Present.*

COMPSA - Director *Queen's University*

- Coordinated and executed professional development initiatives, including leading a 3-person team in *Innovate*, a program designed to foster a startup culture at Queen's University. (ˆ‿ˆ)/
- Founded a new funding pipeline within COMPSA to support student-led computing projects, enabling peers to access resources for personal and entrepreneurial development with **+3,000$** in funding.
- Promoted to Director of Merchandise, **managing a 7-person team** to design, source, and distribute apparel and products that strengthened student engagement and community identity.