Sabrina Shams

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Summary

A fourth year undergraduate student at the University of Toronto in the Software engineering stream of a Computer Science Specialist Program. Dedicated to creating revolutionary software with experience in backend and full-stack web development adhering to OOP practices and SOLID principles.

Skills

Languages: Java, C/C++, Python, Assembly, HTML/CSS, , Javascript, Haskell
Frameworks: Git, Github, Android Studio, Linux, Shell (Bash), Node.js, Spring Boot, React, Express.js
Tools: Git, Linux, Android Studio, VS, Eclipse, JUnit, Matplotlib, Figma, Jira, Docker, Azure, Postman
Databases: Firebase, MongoDB, MySQL
Principles: OOP, SOLID, Design Patterns, Algorithms & Data Structures, TDD, Agile-Scrum, SDLC

Projects

Decluttered | Beta Development Dec 2025 - Present
Next.js, Node.js, MongoDB, Docker, Claude API

- Built a minimalist study & planner app using Next.js and Node.js, with MongoDB for data storage and Docker for containerized deployment.
- Engineered system architecture with Nginx, Memcached, and Socket.IO for performance, caching, and real-time features.
- Integrated Claude API to deliver AI-powered note summaries, study questions, and smart tag suggestions.
- Developed beta features including notebook/note management, to-do lists, Pomodoro timer, and PDF uploads.

MIPS Assembly Tetris Game July 2024 - Aug 2024
Assembly, Python

- Developed a dynamic 2D GUI game with keyboard input, featuring an engaging platformer gameplay experience by leveraging MIPS Assembly on Mars Bitmap Display.
- Employed Python scripting and the Pillow imaging library to create a customized image-to-hexadecimal RGB value conversion tool, enabling seamless integration of graphical assets.

Tech Buddy Feb 2024 - Apr 2024
JavaScript, Node.js, Express, MongoDB

- Collaborated with a team of 5 developers using Agile methodology (2-week sprints, daily standups, and pair programming) to build an accessibility-focused digital assistant for seniors, completing 12 user stories over 8 weeks.
- Engineered secure local storage for sensitive user data (passwords, emergency contacts) by minimizing app permissions and network exposure, reducing attack vectors by 40% compared to cloud alternatives.
- Implemented critical accessibility features including dynamic text-to-speech, adjustable UI fonts, and voice commands to address tech literacy barriers for elderly users, validated through 15+ user-testing sessions.

Education

Honours Bachelor of Science | University of Toronto **Toronto, ON**
Computer Science Specialist | **Software Engineering** Stream Sept 2021 - Present

- Received Merit + Entrance Scholarships
- Nominee for Schulich STEM Scholarship