

Daniel Shi

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TECHNICAL SKILLS

Languages: JavaScript, TypeScript, Python, SQL, HTML, CSS, C, C++, Java, R, Matlab, LaTeX

Frameworks: React, Next.js, Spring Boot, FastAPI, TailwindCSS, ShadCN, Framer Motion, OpenCV, Scikit-learn

Tools: Git, GitHub Actions, Figma, Vercel, Docker, Gradle, CMake, Linux, GDB

PROJECTS

Blanket Fort Game API | *Backend Engineer (Java, Spring Boot, REST)* Nov 2025

- Implemented a controller to handle game initialization, move execution, and state retrieval via REST endpoints
- Integrated provided DTOs to serialize internal game models into JSON, ensuring strict separation of concerns
- Configured the Gradle build automation and restructured the project directory to establish a clean development environment

2D Math RPG Game | *Software Engineer (Java, UML, OOP)* Nov 2025

- Architected an MVC game engine, managing the development lifecycle via GitHub issues and UML design reviews
- Refactored legacy code using the Observer pattern, strictly separating domain logic from UI to eliminate side effects
- Designed a polymorphic equipment system using Java Interfaces to enable modular extension of weapon behaviors

SFU Course Map (StormHacks 2025 Winner) | *Fullstack (Next.js, TypeScript, D3.js)* Oct 2025

- Built an interactive visualizer for SFU course prerequisites, enabling students to explore academic paths via a graph interface
- Designed system architecture and deployed the final product to Vercel within 24 hours as part of a three-person team
- Engineered a data pipeline using Gemini API to parse complex prerequisite text into structured JSON for rendering
- Awarded Best Use of SFU Courses API after presenting a live demo and data flow diagrams to judges

Memory Allocator | *Systems Programmer (C, Linux, Docker, CMake)* Oct 2025

- Implemented a dynamic memory allocator mimicking malloc/free, utilizing sbrk and pointer arithmetic
- Engineered First, Best, and Worst Fit strategies to optimize memory utilization based on user configuration
- Developed coalescing logic for free block management to prevent fragmentation and memory leaks
- Containerized the solution with Docker and CMake to ensure Linux environment consistency and facilitate GDB debugging

AI Receipt Scanner | *ML Engineer (Python, Pytesseract, Scikit-learn)* Jun 2025 – Aug 2025

- Engineered an image preprocessing pipeline, utilizing k-fold cross-validation to tune hyperparameters for optimal OCR accuracy
- Implemented a decision tree classifier to label extracted numerical data, successfully isolating the total cost from dates and sub-totals
- Built an automated testing framework to evaluate accuracy, generating CSV reports and bounding-box visualizations

Travelytics | *UI/UX Developer (Next.js, TailwindCSS, TypeScript)* May 2025 – Aug 2025

- Translated mid-fidelity Figma wireframes into a responsive, type-safe frontend using Next.js and TailwindCSS
- Aggregated real-time demographic and climate data by integrating GeoNames and OpenWeatherMap APIs
- Executed an Agile workflow with CI/CD pipelines and strict code reviews to ensure deployment stability

EDUCATION

Simon Fraser University Burnaby, BC

BSc. Computer Science: Software Systems (Minor in Math & Econ) May 2024 – Present

University of Victoria Victoria, BC

Coursework in Computer Science Sept 2023 – May 2024

TECHNICAL EXPERIENCE

Competitive Programming Team Member (ICPC Div 2) Sept 2025 – Present

Simon Fraser University Burnaby, BC

- Competed in Northwest Qualifiers and Regionals, solving algorithmic problems in C++ under strict time pressure
- Focused on problem decomposition, advanced data structures, dynamic programming and graph algorithms

Web Developer Coordinator Sept 2025 – Present

The Forum Burnaby, BC

- Maintain the organization's website and event campaigns using Next.js, TypeScript, and Three.js
- Develop interactive 3D experiences to increase engagement, generating over 250 new mailing list sign-ups
- Manage GitHub workflows including issues, project boards, and code reviews to maintain clean development standards