Anthony Qin

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Technical Skills

Programming Languages

- JavaScript, TypeScript, C, C#, Python, PowerShell, Java, Haskell, Racket, GraphQ, Lua, Scala

Frameworks & Libraries

- Next.js, React.js, React Flow, D3.js, Tailwind CSS, Material UI, numPy, Pandas, GraphQL, Express.js, Spring API

Tools & Platforms

- Git, Docker, Linux, Android Studio, MongoDB, Firebase, SQL, PostgreSQL, Jenkins, Unity, Godot

Software Development & Testing

- Azure, SDLC, OOP, Functional Programming, Design Patterns, Agile & Scrum, Unit Testing, Functional Testing, Integration Testing, End-to-End Testing, Test-Driven Development (TDD), Continuous Integration & Continuous Deployment (CI/CD), Automated Testing

Experience

University of Toronto / Diamond Schmitt January 2025 - Present

Undergraduate Researcher – Procedural Generation Research Project

- Designed and implemented a constraint-based floor map generation system using the Hierarchical Wave Function Collapse algorithm.
- Applied principles of constraint satisfaction, data modeling, and algorithmic optimization to procedurally generate floor plans.
- Presented a working prototype at Diamond Schmitt Architects, leading to potential collaboration and access to real architectural diagrams.

Autodesk Research May - August 2024

Software Engineer, HCI & AI Intern

- Developed Story Visualizer, a tool leveraging LLMs to help authors visualize and analyze stories through automated story element extraction, infinite canvas visualizations, and AI-generated images.
- Designed and delivered a fully functional web-based prototype that leveraged AI to realize Research Scientists' vision, enabling storytellers to manage narrative elements and visually preview their work.
- Maintained flexible software architecture that allowed for rapid prototyping and adaptation to evolving project requirements
- Researched and independently implemented a tech stack the best fit the project requirements Next.js, LangChain, and React Flow

Projects

Mirror's Memento - Unity Game

- Collaborated with a 12-person team to develop a Unity-Based 3D puzzle game featuring 15 unique levels.
- Designed and implemented key systems, including dynamic controller support, grid movement, and Ai driven hints
- Assisted with the integration of assets and animations, resolving merge conflicts to maintain continuity.
- Published Open beta on itch.io, with ongoing updates based on player feedback.

PintOS Operating System

- Implemented many key parts of the PintOS operating system in C, including Thread Scheduling, System Calls, Virtual Memory Management, and the file system
- Utilized GDB to efficiently test and debug PintOs

MagnifyAccess, Full-Stack Web App

- Collaborated in a team to develop a full-stack web application for Magnify Access, enabling disabled individuals to apply for disability grants, with a strong focus on accessibility.
- Set up MongoDB object tables and built features to allow grant creators to manage and add new grants on the platform.
- Created and integrated features on both front-end and back-end to enable grant creators to easily add and manage new grants on the platform, using React.js for the front-end and Express.js for the back-end.

Education

University of Toronto Toronto, Canada

Bachlor of Science, Specialist Program in Computer Science Co-op 2021 - 2025