

Roy Lu

SOFTWARE DEVELOPER

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Education

University of Toronto Mississauga

HONOURS BACHELOR OF SCIENCE IN COMPUTER SCIENCE

Mississauga, ON

Sep 2017 - Jun 2022

- Served as Web Developer for the Digital Enterprise Management Association and the CCIT (Com. Tech) Department.
- Relevant Courses: Software Patterns, Web Development, Data Structures, Algorithm Design

Sheridan College

COLLEGE GRADUATE CERTIFICATE IN ADVANCED GAME PROGRAMMING

Oakville, ON

Sep 2023 - Aug 2024

- Acted as Teaching Assistant for Computer Math I and Tutor for Advanced Game Programming.
- Relevant Courses: Game Engine Architecture, Computer Graphics, Game Networking

Work Experience

Hiro Technologies

SOFTWARE DEVELOPER

Remote, Canada

June 2025 - Current

- Led front-end architecture using Next.js, React, and TypeScript, delivering responsive UI across 20+ pages and components.
- Architected scalable Firebase backend services with full OAuth pipeline, supporting 100+ users with low latency and automatic scaling.
- Implemented mobile-first design system with Tailwind CSS, reducing UI development time by 40% and ensuring WCAG 2.1 AA compliance.
- Developed motion-controlled gameplay with Unity and WebGL using AI pose tracking, integrated across 3 hardware platforms.
- Optimized web performance by implementing page caching and asset prefetching, reducing load times for user data and AI models by 40%.
- Established automated CI/CD pipelines, reducing deployment time from 1 hour to 20 minutes and improving code quality by 35%.

Brightmir AI

WEB DEVELOPER

Remote, Canada

April 2025 - June 2025

- Led the comprehensive UI/UX redesign for a multiplayer, blind-accessible game, prioritizing inclusive design principles.
- Developed and implemented accessible user interfaces using Next.js and adherence to web accessibility standards.
- Formalized design specifications, managed graphic asset integration with artists, and contributed to product design meetings.

Archipelago of Design

GAME PROGRAMMER

Oakville, ON

Oct 2024 - May 2025

- Co-developed core gameplay systems for "Inner Alliance" using C# and Unity as part of an 8-person multidisciplinary agile team.
- Designed custom terrain mapping tools, reducing level creation time by 50% and enabling 2x more content production.
- Engineered advanced render pipelines with HLSL shaders for volumetric fog post-processing, achieving high fidelity at 60 FPS.
- Architected modular codebase leveraging MVP and SOLID principles, reducing code duplication by 60% and bug resolution by 45%.
- Maintained technical documentation and API references, reducing team member onboarding time from 3 weeks to 1 week.

Sheridan College

TEACHING ASSISTANT

Toronto, ON

Dec 2023 - Jun 2024

- Taught introductory discrete mathematics topics, including combinatorics, relations, graphs and trees, and proofs.
- Instructed students in software design patterns, OOP, data structures, linear algebra, and programming fundamentals.
- Planned and led weekly supplementary classes in collaboration with the professor to reinforce course material.
- Developed targeted exercises and instructional materials to support student understanding of complex math concepts.

Proofpoint

BACKEND QA SYSTEMS ANALYST

Toronto, ON

May 2020 - Aug 2021

- Engineered hybrid automated/manual testing frameworks ensuring 99.9% reliability for microservices processing 10M+ transactions daily.
- Developed Python simulation tools with Jenkins CI/CD, automating 200+ test cases and reducing cycle time from 8 hours to 2 hours.
- Led performance testing for platform migrations, revealing critical memory leaks that would have caused 40% performance degradation.
- Built multi-threaded WPF tool increasing testing throughput by 300%, adopted by 15-person QA team and saving 20+ hours per week.

Skills

Programming Languages C#, TypeScript, C++, Dart, Python, Java, Bash/Shell

Frameworks & Libraries .NET, NextJS, Redux, Flutter, Unity, OpenGL

Tools & Platforms Git, Jira, Linux, Docker, CI/CD, Cursor, Copilot, OpenAI, Figma

Areas of Expertise Full-Stack Applications, Systems Design, UI/UX, Databases, Game Development

Projects

Technical Director & Co-Founder | Moon Stray Games Inc.

DUNGEON COMPANY

Toronto, ON

August 2025 - Present

- Led technical vision and engineering for "Dungeon Company", directing 12-person team to deliver commercial game with 10,000+ downloads.
- Led and facilitated SCRUM ceremonies and mentored team in agile best practices, directly driving a 40% increase in team velocity over 6 months.
- Defined CI/CD strategy and infrastructure, reducing release cycle time from 2 weeks to 2 days and enabling 50+ production deployments.
- Designed and architected scalable event-driven framework, reducing code coupling by 70% and improving team velocity by 35%.
- Set technical quality standards with 80% backend test coverage, reducing production bugs by 60% and ensuring 95% build pass rate.

GitScribe: AI GitHub Branch Summaries

INDIVIDUAL | FLUTTER, DART, SUPABASE

December 2025

- Developed cross-platform Flutter app, supporting Web, Android, macOS, Linux, and Windows, achieving 95%+ code reuse for maintainability.
- Implemented GitHub OAuth pipeline via Supabase, enabling secure repository access and user authentication for seamless integration.
- Engineered robust repository browsing with optimized caching and pagination for seamless handling of large commit histories.
- Integrated 4 AI providers (OpenAI, Anthropic, Gemini, Ollama) for automated code summaries, reducing review time by 50% for developers.

LLM-Powered Educational Game Builder (Serious Play Conference 2025)

New York, NY

NEXT.JS, REACT, TYPESCRIPT

August 2025

- Led front-end implementation for "Mini Escape Maker," an educational tool for educators to create, interactive mystery games.
- Accelerated development by utilizing a hybrid AI-assisted workflow (Cursor) and BulmaCSS to rapidly prototype and deploy the user interface.
- Contributed to AI integration with OpenAI LLMs via prompt engineering to enable the procedural generation of core game content.

Custom 3D Game Engine

UBISOFT NEXT 2024 (FINALIST) | C++, OPENGL

January 2024

- Developed a custom 3D game engine from scratch using C++ and OpenGL to power a turn-based strategy game for the Ubisoft Next competition.
- Implemented engine subsystems including ECS architecture, vertex shaders, and collision without external libraries.
- Implemented custom vertex-based line rendering and camera transformation support in the engine's rendering pipeline.

Bujots: Web Journaling

INDIVIDUAL | REACTJS, MONGODB, TYPESCRIPT

August 2023

- Developed a full-stack web application with user authentication, CRUD functionality, and REST API endpoints for data management.
- Implemented backend services using ExpressJS with token-based authentication, handling user registration and secure data operations.
- Designed and integrated a relational database schema to store user data, journal entries, and associated metadata efficiently.
- Built a responsive front-end interface with state management, implementing features such as autosaving and real-time data synchronization.

Awards

Jun 2025 **Winner**, XP Summit Pitch Competition, 1st place pitching Dungeon Company

Ubisoft

Mar 2024 **Ubisoft Next Finalist**, Independent C++ Game built within 72 hours

Ubisoft

Aug 2024 **Gaming Garage 2nd Best Game & 2nd Best UI**, For excellence in user interface design and engaging

CNE

gameplay mechanics

Speaking Engagements

The Development Journey of Dungeon Company

GAME DEVELOPMENT WORKSHOP (SHERIDAN COLLEGE)

April 2025

- Engaged game development students at a Sheridan College with a presentation detailing our game's concept-to-development process. Included an interactive playtest and Q&A.

Inner Alliance: Contributing to WPS Momentum, One Game at a Time

PEDAGOGIES FOR PEACE SYMPOSIUM (TORONTO METROPOLITAN UNIVERSITY)

February 2025

- Facilitated a cohort of women's peace and security leaders, leading group discussions on using games as an engaging medium for sharing, teaching, and challenging gender-related issues.
- Guided participants through learning and playing a board game, introducing many to this experience for the first time and using hands-on gameplay to illustrate key concepts.

An Introduction to Inner Alliance

SERIOUSLY FUN 2025 (WERO CREATIVE)

January 2025

- Presented at a gathering of developers focused on games for change, detailing the evolution of *Inner Alliance* from concept to digital.
- Discussed how the transition to a digital medium amplifies the project's capacity to achieve its transformative goals and social impact.