

EDUCATION

Bachelor of Computer Science Honours Co-op | University of Manitoba

January 2017 – May 2021

- Cumulative GPA: 3.93 / 4.50, Dean's Honour List: Fall 2020

INDUSTRY EXPERIENCE

Tools Programmer – Rendering and Animation | Ubisoft

June 2020 – August 2020

Winnipeg, MB

- Designed, implemented and maintained new and existing features in the Rendering and Animation pipeline of Ubisoft's proprietary game engine for unannounced AAA titles.
- Worked closely with the artists and programmers to research and implement new algorithms for creating better visuals for upcoming AAA titles.
- Migrated prototype features to the pipeline with essential extensions and refactoring to make them production ready.
- Proposed long-term strategies and collaborated with senior programmers to define robust pathway for animation and rendering features.

Associate Developer – Animation and Cinematics | Frostbite, Electronic Arts (EA)

September 2019 – December 2019

Vancouver, BC

- Developed and maintained tools to improve the animation authoring workflows in EA's proprietary game engine Frostbite.
- Spearheaded the development of advanced animation debugging features for runtime game code in Frostbite.
- Worked closely with the Software Engineers and Animators of games such as FIFA and Madden to ensure high user satisfaction and quality of the deliverables.
- Followed best practices including Agile and Technical documentation for reliability and maintainability of the tools developed.

Tools Programmer – Machine Learning | Ubisoft

January 2019 – April 2019

Winnipeg, MB

- Designed and developed Machine Learning based tools for Ubisoft's proprietary game engines to create better game worlds.
- Achieved an accuracy of up to 82% for machine learning models for terrain authoring and world-building, which eliminated hours of manual work of artists while still allowing them to have a fine control over the details.
- Built specialized UIs and renderers for modularity and multi-engine support of the tools developed; Leveraged distributed architectures for network based and multi-client usages.
- Collaborated with the UX/UI designers and Technical Artists to get familiar with the world-building workflows and obtained regular feedback to ensure better usability and quality of the deliverables.

TECHNICAL SKILLS

Languages: C, C++, C#, Python, Java, JavaScript, GLSL, HLSL, SQL

Technologies: .NET, WPF, OpenGL, WebGL, Node.js, React.js, Xamarin, git, Perforce

PROJECTS

Real-time Ray tracer | Unity3D, Compute Shaders

- GPU based real-time ray tracer based on the Phong Shading model which includes lighting details such as reflections, refractions, transmissions and soft shadows along with the support of non-primitive mesh objects.

SimpliPass | React.js, Xamarin, ASP.NET, AWS Amplify, AWS Elastic Beanstalk, AWS DynamoDB

- SimpliPass is a cross-platform mobile and web application for reviewing university courses and instructors that is developed with agile practices, CI/CD and extensive testing at all levels (unit, integration, system, and acceptance).

ChainBNB | Ethereum Blockchain (Solidity), IPFS, React.js

- ChainBNB is a peer-to-peer distributed application for property renting that runs on the Ethereum Blockchain and utilizes the IPFS distributed file system for image storage.

Flowy | WebGL, GLSL, JavaScript

- GPU based real-time fluid simulation of incompressible fluids based on the Navier-Stokes equations that utilizes the power of GLSL for doing complex and physically accurate computations in parallel on the GPU.