ARSH KHOKHAR

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EDUCATION

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

January 2018 - Present

- Cumulative GPA: 3.94 / 4.50, Expected Graduation: May 2021
- Specializing in Computer Graphics and HCI, Artificial Intelligence and Web-based Systems

University Transfer Program Stage II, Science | International College of Manitoba

January 2017 - December 2017

- Cumulative GPA: 4.35 / 4.50
- Merit Scholarship awardee (\$6500), Summer 2017

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 titles.
- Worked closely with the artists and programmers to research and implement new algorithms for creating better visuals for upcoming 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 pathways for problems under consideration.

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 content creators of games such as FIFA and Madden to ensure high 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.
- 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 Frameworks Game Engines and Graphics Software

C, C++, C#, Java, JavaScript, Python .NET, WPF, OpenGL, WebGL, DirectX11+, Qt, React Unity3D, UE4, Blender, Houdini

PROJECTS

The CNN problems and its variants for the Generalized k-server problem | Research Project

A survey and research of new online algorithms for Orthogonal and Continuous CNN Problems to reduce their upper-bounds.

Real-time Ray tracer | Unity3D, Compute Shaders

• GPU based real-time ray tracer which includes lighting details such as reflections, refractions and smooth shadows.

Flowy | Unity3D (for MPM and SPH), C++/OpenGL (for Navier-Stokes)

• GPU based real-time simulation of incompressible fluids using three different approaches: Material-Point Method, Smoothed Particle Hydrodynamics and Navier-Stokes equations.

Subdivisions | JavaScript, WebGL

Catmull-Clark subdivision simulator with .obj loader, animation between subdivision levels, and lighting details for quad meshes.