

# Arsh Khokhar

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## EDUCATION

**UNIVERSITY OF MANITOBA** | BACHELOR OF COMPUTER SCIENCE HONS. CO-OP

Jan 2017 - May 2021

Concentrations: Web-based Systems, Artificial Intelligence, Computer Graphics and HCI

Cumulative GPA: 4.01 / 4.50 • Dean's Hons. List: Fall 2020, Winter 2021

## EXPERIENCE

**UBISOFT** | SOFTWARE DEVELOPER

Winnipeg, MB

Co-op Work Term III

Jun 2020 - Aug 2020

Tech stack: C++, HLSL, Git, Perforce

- Developed and maintained features in the Rendering and Animation pipeline of proprietary game engine for upcoming AAA titles.
- Researched and implemented new algorithms for realistic and scalable real-time Physically-based animations.
- Migrated prototype features with essential extensions and refactoring to the pipeline, making them production-ready.

**ELECTRONIC ARTS** | SOFTWARE DEVELOPER

Vancouver, BC

Co-op Work Term II

Sep 2020 - Dec 2020

Tech stack: C++, C#, .NET, WPF, Perforce

- Designed and developed tools to improve the animation authoring workflows in EA's proprietary game engine Frostbite.
- Collaborated with the UX team for designing intuitive editor UIs for the artists and animators.
- Obtained regular feedback from the animators of games such as FIFA and Madden to ensure high user satisfaction of the deliverables.

**UBISOFT** | SOFTWARE DEVELOPER

Winnipeg, MB

Co-op Work Term I

Jan 2019 - Apr 2019

Tech stack: Python, OpenCV, Tensorflow, OpenGL, Qt, Docker, ZeroMQ, Git

- Designed and developed Machine Learning based tools for expediting the terrain-authoring workflows in proprietary game engines.
- Built specialized UIs and Renderers for modularity and multi-engine support of the tools developed.
- Deployed machine learning models on internal clusters; added network support to the tools for multi-client usages.

## SKILLS

Languages: C/C++ • C# • Python • Java • JavaScript • HLSL • GLSL •  $\text{\LaTeX}$

Technologies: Flask • NodeJS • ExpressJS • ReactJS • PostgreSQL • MongoDB • .NET • OpenGL • AWS • Git

## PROJECTS

**THE CNN PROBLEM AND ITS VARIANTS** | Research Project

[arshkhokhar.com/cnn\\_survey.pdf](https://arshkhokhar.com/cnn_survey.pdf)

- A survey paper highlighting technical results and online algorithms for the Orthogonal and Continuous CNN problem variants of the Generalized  $k$ -server problem.

**REAL-TIME RAYTRACER** | JavaScript, WebGL, GLSL

- A GPU based real-time ray tracer based on the Phong Shading model that includes lighting details such as reflections, refractions, transmissions and soft shadows.

**TASKBOARD** | ReactJS, NodeJS, ExpressJS, PostgreSQL, Heroku

- A full-stack web app with a card/list based UI to improve collaboration management on projects.