Hongjun Chen

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EDUCATION

McGill University, Montreal, QC | BSc Honours Software Engineering SEP 2020 - MAY 2024

- Participated in MAIS 202, a semester long machine learning bootcamp
- Cumulative GPA: 4.00/4.00

EXTRACURRICULARS

Software Division Member OCT 2020 - AUG 2021

McGill Robotics

- Built a robotics simulation environment using Unity3D and C# to accelerate software/hardware development and testing

PROJECTS AND ACCOMPLISHMENTS

The Almighty (Unity, C#) – McGame Jam 2021

- Worked on a team of programmers, artists and designers, and developed a first-person shooter game
- Designed an NPC movement control algorithm to simulate the effect of characters roaming around a city

Hazel Dash (C++, OpenGL, GLSL)

- Created a 2D platform game using the Hazel game engine
- Implemented a custom entity component system

Egg "Haunt" (Unreal Engine 4, Blueprint) – GGJ 2021

- Developed an adventure game around the theme "lost and found"
- Worked on the main character's controls and mechanics

Reverse Food Image Search (Keras, Tensorflow, Numpy, Python, Apple Core ML, Swift)

- In a team of 3, modified and trained a Convolutional Neural Network (CNN) based on ResNet50 and achieved an accuracy of about 93% with 70 categories
- Imported the ML model into Core ML and developed an iOS app using Swift, allowing users to search the name of a food by taking a picture of it

EMPLOYMENT

R&D Software Developer Intern MAY 2021 - AUG 2021

PreVu3D

- Reimplemented and optimized the mesh cut tool and improved its performance by 30%
- Integrated the new cut tool into the PreVu3D application built with Unity
- Performed unit testing with Catch2 on the new cut tool
- Integrated custom envelope constraints into Poisson Surface Reconstruction
- Technologies: C++, Unity, C#, .NET, Catch2, vcpkg, AWS

TECHNICAL SKILLS

- **Object Oriented Programming (OOP)**: C#, Java, C++, C, Kotlin, Python
- **Tools**: CMake, MSBuild, Maven, Gradle, vcpkg
- **Game Development**: Unity, Unreal Engine 4
- **Computer Graphics**: OpenGL