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Edinburgh, Scotland
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Yannik Nelson

GitHub: yanniknelson
LinkedIn: yannik-nelson
Portfolio Website: yanniknelson.github.io

Skills

Tools and Languages
C, C++, OpenGL, WebGL, GLSL, Java, Python, Haskell, C# & .NET, JavaScript, Flask, Git, LaTeX, MarkDown, Regex, Perforce, ImGUI

Game Development Experience

Code/Gameplay Intern **June 2022 — August 2022**
Rockstar *Remote, Full-time*

- Introduced to the development process at a AAA studio, becoming familiar with working in a large proprietary codebase and its associated workflow and tooling.
- Work involved general bug fixing, refactoring and investigation tasks in various player-facing systems as well as improvements to existing debug functionality.
- Collaborated with team members across multiple disciplines and studios, working with my Lead to ensure tasks were delivered on schedule and to the required specification.

Game Developer **June 2021 — September 2021**
Yaldi Games *Remote, Part-time*

- Developed game system features including a weather manager and weather effects.
- Developed using C++ in the Unreal Engine

Game Developer **May 2020 — September 2021**
ToonTown: Corporate Clash *Remote, Part-time*

- Developed game pad support, including movement control and UI interaction in Panda3D
- Fixed bugs submitted by users from Jira

Other Technical Experience

Software Developer/Scholarship Awardee **July 2021 — Steptember 2021**
ThorLabs *Remote, Full-time*

- Developed a replacement user settings management system in their software using C# and .NET
- Required the ability to take in and process previous settings file to persist previous user settings as well as quickly and easily add new settings in future updates
- Debugged and fixed a hard-to-reproduce bug in their hardware communications protocols, increasing reliability for a device communication.

Summer Intern **June 2019 — August 2019**
Robotical *Edinburgh, Full-time*

- Developed addons for their educational robot
- Involved programming, communicating directly with the product designer and basic circuit design.
- Helped the team organise and categorise potential fundraising options

Education

Artificial Intelligence and Computer Science (BSc Hons, First Class), *The University of Edinburgh* July 2022

Dissertation
- Developed a new volume rendering technique, using a neural network to represent the volume data. Then analytically integrated that neural network to calculate optical depth along a ray.
- Implemented a WebGL shader version which can be found on my porfolio website.

Introductory Applied Machine Learning
- Learned about predictors and classifiers; and classes of each.
- Went into detail for the algorithms of Decision Trees, k-Means clustering, linear and logistic regression, principal component analysis and neural networks.
- Learned about optimisation and regularisation methods.

Computer Graphics
- Learned about the maths, algorithms and concepts behind raytracing
- Implemented a raytracer capable of reflection, refraction, texture mapping, rendering triangle-meshes (with uv coordinates and custom normals), and distributed rendering (thin-lens cameras and area lights).
- Implemented a bounding volume hierarchy which enabled rendering of over 40,000+ triangles in under a minute.

Advanced Highers, *(AAA, Maths, Physics, Computing Science)* June 2018

Activities

Game Development Special Interest Group Leader 2020 — 2021
2nd Year Representative for the Computing Society at Edinburgh Univeristy 2019 — 2020