

# Martin Morrison-Grant

Software Engineer

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## EXPERIENCE

### Codeplay Software, Remote — Staff Software Engineer

APRIL 2024 - PRESENT

JANUARY 2023 - APRIL 2024 - Software Engineer

Developed GPU runtime backends and contributed to the specification for oneAPI's Unified Runtime, an open-source project enabling SYCL applications to target heterogeneous backends including CUDA, HIP and OpenCL. Heavily involved in building automated testing suites across multiple platforms and devices.

Worked extensively with C++, Python, CMake, GoogleTest, Github/Gitlab CI/CD pipelines to ensure performance, stability and maintainability across multiple platforms.

Regularly collaborated with other teams at Codeplay and Intel, to support their contributions to Unified Runtime, investigate and resolve bug reports, and aid product releases. Involved in migrating the project between Github repositories whilst live development continued, ensuring synchronisation and successful PR merges.

Developed internal tools to report detailed automated testing results and measure and track Github PR velocity to improve cross-team efficiency and collaboration.

Member of Intel's Github Gatekeepers team on their fork of Illvm, maintaining open source PR contribution policies and enforcing good Git repository practices.

Regularly presented in quarterly department "Show and Tell" calls to give updates on my team's recent contributions and achievements, and showcased our project on a Khronos OpenCL call.

### Wushu Studios, Remote — Gameplay Programmer

MARCH 2022 - JANUARY 2023

Developed gameplay mechanics, tools and systems alongside other game studios in a co-development arrangement using Unreal Engine and C++.

### Rockstar North, Remote — Game Systems Engineer

JANUARY 2021 - FEBRUARY 2022

Created design centric gameplay systems and tools to allow members of the design team to add new content for Rockstar games. I worked on two

## SKILLS

C++

C#

Java

Python

Javascript

HTML & CSS

Git

Perforce

Jenkins

Jira

CMake

MSTest

Github &  
Gitlab  
CI/CD

GoogleTest

Docker

OpenCL

OpenGL

Linux

Unreal  
Engine

Unity

SDL

Monogame

iOS

Android

Django

## AWARDS

Develop 30 Under 30

Honourable Mention 2014

Game Jam Winner UWS

Windows 8 Game Jam

2013 sponsored by

Microsoft

UWS Court Medal Most

Distinguished Student

2011-2012

updates to GTA: Online - The Contract and Los Santos Tuners, the latter had the highest player count of any update since the launch of the game back in 2013.

### **Digital Barriers, On-site — Software Engineer**

JUNE 2019 - JANUARY 2021

Developed internal and external SDKs related to digital video surveillance for security applications, using mainly C++ and C# across Windows, Linux and iOS.

I worked on new features, defects and unit/integration testing.

### **JP Morgan Chase & Co, On-site — Software Engineer**

FEBRUARY 2019 - JUNE 2019

Worked in a small agile development team to deliver software solutions internally to other teams within the company, primarily working with Jav and SQL.

### **Motorola Solutions, On-site — Application Developer**

OCTOBER 2016 - SEPTEMBER 2017

Developed mobile data capture systems for the emergency services using Java, XSLT and in-house technology. Gained experience of the full software project lifecycle including meeting customers to capture requirements, design, implementation and testing.

### **MindMate, On-site — iOS Developer Intern**

JUNE 2016 - AUGUST 2016

Worked on the MindMate iOS app to polish the game section to improve their playability and accessibility for users with Dementia and Alzheimer's. During my time here the app reached #2 in the Health category on the App Store.

### **Tick Tock Games, On-site — Junior Programmer Intern**

JULY 2014 - AUGUST 2014

Supported the senior programming team, and also responsible for preparing a previously released game for launch on a new platform. Contributed to game projects released across Android, iOS, OS X and PC.

## **EDUCATION**

### **Industrial Robotics PhD — University of Strathclyde**

OCTOBER 2017 - FEBRUARY 2019

Successfully completed the first year of a PhD researching autonomous robotic systems for efficient and effective manufacturing and inspection. Transitioned back to the private sector to pursue a career in industry-focused software development.

### **Computing Science MSc — University of Glasgow**

SEPTEMBER 2015 - SEPTEMBER 2016

Achieved a Master's degree in Computing Science to broaden my skills and knowledge. Took a selection of classes such as Computer Architecture, Internet Technology, Safety Critical Systems, Cyber Security and various others. Had many opportunities to work on both solo and group coursework.

## **Computer Games Technology BSc (Hons) 2.1 — University of the West of Scotland**

SEPTEMBER 2011 - JULY 2015

Learned various programming languages and technologies to design and build game engines with 2D and 3D graphics and physics, using mainly C++ and OpenGL. I had the role of team leader in many group projects to gain management and leadership experience. I also had experience presenting projects. I founded the UWS Games Dev Society and ran it for two years, organising game jams and industry talks.

### **PROJECTS**

#### **The Contract & Los Santos Tuners — GTA: Online Updates**

I worked on two updates to GTA: Online which added various new content for players themed around a “solutions” agency where the player works with high profile clients such as Dr. Dre, and underground car culture. My personal contributions were made across a range of different areas including new player properties, cut-scenes, in-game menus, activities and animations, localisation, audio, vehicle interactions and a new supply drop feature.

#### **Wedding Photobooth — Raspberry Pi & Python**

Created a party photobooth for a family member’s wedding and later my own. Wrote a Python app using OpenCV and PiCamera and wired up a camera and LED buttons to let guests take a photo and print them as a souvenir. The system was set up in a custom wooden enclosure. The app saved photos to disk, an external drive and uploaded them to cloud storage.

#### **Kanshi City — Unreal Engine 4 Game Prototype**

A game about avoiding security patrols while escaping a dystopian, Tokyo-inspired city. Originally a prototype and continued to develop it as a hobby project after positive feedback. Took the game to a large games convention in Glasgow where lots of people played it and the game was featured in a national newspaper.

#### **Mobile Pressure Input — MSc Group Project**

Group project where we designed an input system that lets the user squeeze their phone to change the layout of the on-screen keyboard from normal letters, to capitalised letters and to numbers and symbols. Developed on an Android smartphone with a companion app for a user study.

#### **Unicorn Space Command — Game Jam Winner**

2D space shooter created using Construct 2 that won the UWS Windows 8 game jam in 2013, sponsored by Microsoft. Initially published the game on the Windows Store and later Google Play. The game received coverage on uBelly, MSDN and Scottishgames.net.

#### **Dichotomy — BSc Group Project**

Group project where I had the role of team leader. We produced a C++ and OpenGL game engine for a split-screen dungeon game. The engine features a robust input system, physically based rendering, data driven asset and level loading, physics based movement, AI pathfinding and a base for networked play.

#### **How To Rule The World In 3 Minutes — Global Game Jam 2014**

Programmer in a team of six where we developed a local multiplayer platformer game. Players capture towers and block others from doing so to gain points. We used C# and Monogame as beginners to build this game over a weekend. I contributed to input, audio and game state management.