EXPERIENCE

Software Development Engineer Co-op – *A Thinking Ape,*
SEPTEMBER 2022 - DECEMBER 2022, MAY 2023 - AUGUST 2023
- Enabled company to iterate on new projects faster by refactoring all services to use a composite primary key from a single primary key
- Wrote a tool to detect queries that were only querying by single primary key and logged as needed
- Refactored data import tool to cleanup codebase and allow imports of data with composite primary key or single primary key
- Extended Django's migration creator to migrate databases to composite primary keys
- Assisted in migration from AWS to Astute
- Security improvements to Docker containers by switching them to run as an unprivileged user
- Improved internal deployment and restart tool to be more scalable and less disruptive to other users by optimising concurrent requests to not flood workers
- Modified internal tool to raise an informative error message if it detected VPN was not connected. This reduced support tickets and lead to faster problem resolution for users
- Refactored Kafka producer fallback file code to reduce code complexity and make it usable across multiple destination clusters for fallback messages

Student Developer – *NAIT Industry Solutions,*
JUNE 2022 - AUGUST 2022
- Worked in the Unity game engine to help develop a 3D video viewer
- Added tests for pre-existing code base

PROJECTS

ACE 3
JUNE 2019 – *ARMA 3 Mod*
[Project Link]
- Lead developer who works with our users to add features, maintain and update existing ones, review pull requests, and work with the other developers for future growth of the project
- One of the most popular mods with over one million active users
- Added four major features, and helped with many smaller ones

Custom Game Engine
2017-2019 – *Hobby Game Engine*
[Project Link]
- Custom memory heaps integrated in engine to ensure memory is managed and not fragmented
- Optimised hot path allowing hundreds of thousands of entities to be simulated in real time
- Lua integration allowing quick iteration on games made from the engine
- Integrated Google's paper LiquidFun for real time CPU processing of many particles
- Custom thread pool allowing concurrent operation of subsystems
- Custom retained mode GUI for in-game UI

SKILLS

Technologies

Linux
Docker
MySQL
Postgres
Git

Frameworks

Django
Axum

LANGUAGES

Python
Rust
C
C++
C#
JavaScript
HTML/CSS
SQL
GLSL
LaTeX

INVOLVEMENT

AlbertaSat
OCTOBER 2020 – DECEMBER 2020
University of Alberta

acemod
JUNE 2019 – PRESENT
ARMA 3 Mod Team

Bourbon Warfare Group Technical Administrator
DECEMBER 2017 – JUNE 2022
ARMA 3 Group