Mohamed Kazma

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LINKS

Github:// **moekaz**
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EDUCATION

CARLETON UNIVERSITY

BS in Computer Science
Expected May 2019 | Ottawa, ON
Cum. GPA: 3.5 / 4
Major GPA: 3.55 / 4

SKILLS

LANGUAGES:

C++ • C • C# • Java
JavaScript • CSS • HTML • Python

FRAMEWORKS:

Node.js • Pug(Jade) • Express.js

TECHNOLOGIES:

SQL • MongoDB • Unity • Git • SVN

LIBRARIES:

OpenGL • GLSL • SFML • JQuery • Socket.io • Swing

EXPERIENCE

ROSS VIDEO | Software Developer-Java

Sept 2018 - Dec 2018 | May 2019 - Sept 2019 | Ottawa, ON

- Software Developer on **DashBoard** , a software program used to make connecting and configuring broadcasting devices a lot easier as well as scriptable logic and api calls
- Worked on a scheduler product that creates a manager for broadcasting devices and send certain API calls at a certain scheduled time or instantaneously using the UI
- Fixed bugs and added multiple features with testing for functionality using unit and integration testing with **JUnit**
- Worked on build pipeline with **Maven/Tycho** to generate a build script that will be used to create an executable build of our product

CARLETON UNIVERSITY | Teaching Assistant

Sept 2017 - May 2018 | Jan 2019 - April 2019 | Ottawa, ON

- Assisted with second-year data structures and web development as well as discrete mathematics courses
- Held office hours to help students understand course material as well as approach problems they are facing

PROJECTS

MTRX ENGINE August 2018

- Physics Engine based on **C++** using libraries such as **GLM, SpdLog, GLAD, GLFW**
- Implemented Rigidbody dynamics with Newtonian Physics with force application and integration of said forces and generating torques to create a rotation when necessary as well as basic inertia tensors used for simulating said rotational forces
- Added basic bounding collider volumes(sphere, capsule, box, convex shape colliders) that are used in basic collision detection algorithms and are also helpful for raycasting query algorithms
- Created an implementation of GJK an algorithm used for collision detection on any 2 convex shapes for more complex and finer collision detection
- Implemented a bounding volume hierarchies which creates hierarchies of bounding volumes(colliders) which helps in making collision detection more optimized
- Added force generators that are used to easily add a certain force to a rigidbody (gravity, drag, buoyancy, spring forces etc...)

FRONTIER GUILD January 2018

- A 3D real time strategy game using **Unity** to build the game world, script player and unit behaviors as well as set up the scene's UI
- Uses turn based combat when player and enemy units go into combat or into random encounters with neutral environment units

FLYING UNDERSIZED CONTROLLED KILLER September 2017

- A 3D Helicopter Assault game based on a fly that using **C++** and **OpenGL** which is used for rendering scenes and setup architecture
- Used **GLSL** to write vertex and fragment shaders for unit texturing and illumination calculations in addition to writing geometry shaders to create multiple particle systems for fires and explosions etc...