

Michael Kelly

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Experience

Amazon Web Services – Software Development Engineer Intern

June 2019 to August 2019

- Created **ListConfigurationHistory**, a **paginated API** function that displays history information on a **CloudWatch Application Insights** application. Customers can filter data by timestamp, event type, and other parameters.
- Wrote design documents, designed **DynamoDB** database schema, and modified **AWS Lambda** functions to write data to the database.

Amazon – Software Development Engineer Intern

June 2018 to August 2018

- Designed a webpage using **AngularJS**, **Ruby on Rails**, and **HAML** that allows users to filter their development resources by permission type and view which project the selected resource belongs to.
- Developed project from concept to release, created design documents, led product design meetings, wrote **unit tests**, participated in **code reviews**, communicated with users for product feedback and feature ideas.

Projects

Pandora's Box

November 2019 to May 2020

- A mixed reality **escape room** developed in a **CAVE** using **Unity** and **Vicon motion capture** technology. Worked as **puzzle designer** and programmer. Winner of the **Technical Excellence Award** at RPI GameFest 2020.

AR Camera Layout Tool

January 2020 to May 2020

- A **PyMEL** Maya plugin and **RealityKit** augmented reality app that displays Maya scenes in AR, records the position of the AR camera, and generates keyframes on a Maya camera based on the AR camera's position.

GPU Photon Mapping

July 2019

- A **path tracer** and **photon mapper** written in **Swift** using **Metal compute shaders** and ray tracing library. Photons are stored as triangles in an **MPSTriangleAccelerationStructure** and gathered on the **GPU** via ray casts.

Balloon Simulation

May 2019

- A **C++ mass-spring** balloon **simulation** application. Worked with a partner and wrote code for **model loading**, **spring generation**, and **collision detection**. Wrote a nine-page **technical paper** describing application features.

Plasma Ball

December 2018

- A recreation of a plasma ball rendered with **WebGL**. Wrote vertex and fragment shaders in **GLSL ES**.

OXIO

September 2017 to June 2018

- A **puzzle game** developed using **Swift** and **SpriteKit** for **iOS** and **macOS**. Created a real-time **level editor**. OXIO received a **WWDC scholarship** in 2018.

Education

Rensselaer Polytechnic Institute

August 2017 to May 2020

- Bachelor of Science, **Computer Science** and Game Design. 3.6 GPA.

Skills

C++	Swift	HTML/CSS	Python	RealityKit	PySide/PyQt	Maya	Houdini
Metal	JavaScript	Java	WebGL	ARKit	PyMEL	Unity	Arnold

Hobbies and Interests

Corgi Dogs

Kingdom Hearts (video game)

Jigsaw Puzzles

Ghost Adventures (TV show)

Computer Animation

Baking and Cooking