Michael Kelly

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Education

Rensselaer Polytechnic Institute – Troy, NY — **August 2017 to May 2020**

- Bachelor of Science – Dual major, **Computer Science**, Games and Simulation Arts and Sciences. 3.52 GPA.

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 programmer and **puzzle designer**. 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. 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.

Skills

C++	Metal	Maya	Python	Houdini	RealityKit	Substance Painter
WebGL	OpenGL	Swift	Arnold	Unity	PyMEL	PySide/PyQT

Hobbies and Interests

Corgi Dogs
Ghost Adventures (TV Show)
Kingdom Hearts (video game)
Computer Animation
Jigsaw Puzzles
Baking and Cooking