

Ryan Heath

Software Engineer

[linkedin.com/in/ryankheath](https://www.linkedin.com/in/ryankheath)

PROFESSIONAL EXPERIENCE

Engineering Intern, Project TBA — AuthorDigital

Remote Work

May - August 2020

- Wrote a Unity serialization library that outputs to JSON or CSV and documented it in Confluence which allowed other teams to implement it in their projects
- Created a data driven inventory system with a simple to use interface by extending Unity's Addressable Asset System, enabling other engineers and designers to easily modify gameplay data
- Integrated the Unity Unit Test Framework into the project and set up a test runner in Jenkins, which sent notifications to the team on test failures
- Worked with Jira utilizing Agile Scrum methodologies

Tutor & Teaching Assistant — DigiPen Student Affairs

Redmond, WA

September 2019 - Current

- Assisted students with their calculus, linear algebra, and C/C++ coursework
- Primary TA for 36 sophomore game teams in CMake and Lua

Computer Science Instructor — DigiPen Academy

Redmond, WA

June 2019 - May 2020

- Taught high school students game development, C#, Unity, C, Lua, and PICO-8
- Wrote the curriculum for a game engine architecture course in PICO-8 and Lua

ACADEMIC PROJECTS

Producer & Tech Lead — Escape Sequence

FPS Roguelike (Unity)

September 2020 - Current

- Taught and led the team in Agile methodologies with Phabricator so we could more efficiently collaborate while working remotely
- Added a behavior tree system to Unity, allowing us to easily design complex enemy AI and reuse components of those behaviors on different enemies
- Created a data driven modification system that decoupled the game progression data from the systems of the game, enabling us to easily design character ability modifications for player progression

Tech Lead — Infinite Supernova

Infinite Runner With Rhythm Elements (Custom Engine)

September 2019 - April 2020

- Designed an ECS engine architecture and coordinated a team of 6 programmers implementing separate systems to create a robust game engine
- Wrote a Unity inspired API in Lua for authoring behavior scripts which allowed our team of 3 designers to script gameplay, and modify it at runtime
- Integrated the FMOD Studio API into the engine and created a Lua interface for it in my API which enabled our audio designer to program the rhythm elements of the gameplay in the Lua gameplay scripts

EDUCATION

BS in Computer Science and Game Design

DigiPen Institute of Technology

Expected Graduation: April 2022

SKILLS

| Languages | Tools |
|------------|-------------|
| C/C++ | Git |
| C# | Jira |
| CMake | Confluence |
| Lua | Phabricator |
| Python | Jenkins |
| MoonScript | Perforce |

PERSONAL PROJECTS

Procedural Generation

- Planning based story generation
- PICO-8 roguelike level generation
- Markov chain text generator

Self Hosting Devops Tools

- Currently hosting a Phabricator install which provides git, git-lfs, workboards, CI builds, and wikis for 30 students across 3 teams
- Previously with Gitea and Drone

Lua & MoonScript projects

- Lua based Phabricator to Trello bot
- Moonscript PICO-8 roguelike game

Godot projects

- Automated combat system that output telemetry data for analysis
- White box level design project

EXTRA CURRICULARS

DigiPen Dean's List

Spring 2019 - Winter 2020

Volunteer Assistant Coach

November 2017 - February 2018,
Pullman High School Swim Team