

EDUCATION

Carnegie Mellon University Pittsburgh, PA | May 2020

Bachelor of Computer Science and Arts & Game Design Minor

QPA 3.74/4.0 (Dean's List Fall '16 - Spring '17, Spring '18 - Spring '19)

Courses Computer Game Programming, Computer Graphics, Discrete Differential Geometry, Introduction to Computer Systems, Web App Development, Principles of Software Construction, Character Rigging, RPG Writing Workshop

EXPERIENCE

Principles of Software Construction Course Staff [Java, Swing, UML] Pittsburgh, PA | Fall 2019

Teaching Assistant

- Assisted class of 98 students in software design/implementation in weekly office hours, recitations, and online forums
- Directed four 30-minute design meetings between 2 students to evaluate preliminary software designs using UML

Riot Games [Unreal, C++] Los Angeles, CA | Summer 2019

Game Systems Engineering Intern

- Collaborated with content creators and metagame engineers to prototype and provision interactive premium content
- Engineered dynamically loaded cheats displayed in menu by balancing UI/UX needs with system design conventions
- Maintained build security by designing and validating network paths, and restricting code between client and server

Raven Software [C++] Madison, WI | Summer 2018

Gameplay Engineering Intern

- Prototyped and playtested multiplayer team-based game modes and supporting mechanics by engineering gameplay systems and designing play spaces using proprietary tools

PROJECTS

Magpie, Computer Game [C++, OpenGL] Pittsburgh, PA | Fall 2018

- Implemented dynamic level-loading by encoding mesh, room, guard path and spawn information in RGB channels
- Maintained 18-page design document and led design meetings to brainstorm and assign features to implement

Pick Me Up, Animation Short [Maya, Premiere] Pittsburgh, PA | Spring 2018

- Pitched animatic and character designs through two rounds of selection to recruit and direct a team of 5 animators
- Constructed body rigs for squirrel and turtle characters using dynamic ribbon splines and integrated FK/IK support
- Animated and rendered 13 shots by blocking elements, framing camera, and animating body movements

Scotty3D, 3D Modeling/Animation Program [C++] Pittsburgh, PA | Spring 2018

- Implemented local and global halfedge mesh operations, including loop and Catmull-Clark subdivision
- Implemented physical lighting for diffuse, specular, and refractive materials using Monte Carlo path tracing
- Implemented animation functionality such as Catmull-Rom keyframing, FK/IK joints, linear blend skinning, and forward/symplectic Euler physics simulation

Image Processing Algorithms [MATLAB] Pittsburgh, PA | Fall 2018

- Implemented HDR pipeline, including exposure stack merging, tonemapping, white balancing, and color correction
- Implemented gradient domain processing, including Poisson blending, flash/no-flash merging, and pseudo-relighting

HTTP/1.0 Proxy, Computer Systems Project [C] Pittsburgh, PA | Fall 2017

- Programmed web proxy that forwards client requests and server responses using sockets and last-in-first-out caching

Linux Shell, Computer Systems Project [C] Pittsburgh, PA | Fall 2017

- Programmed Linux shell that parses inputs and runs foreground/background jobs using forks and signals

EXTRACURRICULARS

World of Dance, Touring Hip Hop Competition Dallas, TX & Houston, TX | May 2015, May 2016, August 2017

SKILLS

Programming Languages Java, C#, C/C++, SML, Python, HTML5/CSS, JavaScript

Software Unreal, Maya, Unity, Photoshop, Premiere, After Effects, Illustrator, Visual Studio, IntelliJ, CLion

Languages Spanish (Proficient), Mandarin Chinese (Conversational)