Jonathan Lee

Software Engineer and Graphics Programmer

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Skills

Languages	C++, Python, JavaScript, GLSL, WebGL
Web Technologies	HTML/CSS, Bootstrap, WordPress, Flask, Node.js, MongoDB, MySQL, Git
Software	Microsoft Word, PowerPoint, Excel Adobe Photoshop, Illustrator, Premiere, After Effects Autodesk Maya
Miscellaneous	Cantonese Chinese (Fluent) Guest service, cash handling, problem solving, troubleshooting

Education

University of Pennsylvania — **Philadelphia, PA**
MSE, Computer Graphics & Game Technology — August 2016 – May 2018 (anticipated)

Rutgers University — **New Brunswick, NJ**
BS, Computer Science — August 2012 – January 2016

Work Experience

Disney College Program Cast Member — **Walt Disney World Resort**, Orlando, FL, January 2016 – July 2016

- Delivered excellent guest experience daily.
- Recognized by leaders for demonstrating the Four Keys on various occasions.
- Completed a course in Disney Leadership

Digital Developer Intern — **Today's Business**, Pine Brook, NJ, May 2015 – Aug. 2015

- Maintained various web pages for clients through WordPress.
- Designed landing pages through Instapage and FalconSocial.
- Utilized Google Analytics to generate SEO reports.

Projects

Monte Carlo Path Tracer — **Desktop Application**, C++

- Integration techniques: direct lighting, Full Lighting (MIS & Global Illumination), Full Lighting with Participating Media
- Various BSDFs and lights.
- Features BVH Acceleration, Implicit Geometry, Constructive Solid Geometry, Variance detection and reduction via super-sampling.

Mini-Minecraft — **Desktop Application**, C++, GLSL

- Developed physics engine along with terrain interaction.
- Implemented first person and third person sandbox camera modes.
- Implemented various steering behaviors for NPC AI and coordinated a dance animation.

Desktop Application, C++, GLSL

Mini-Maya

- Implemented a half-edge data structure.
- Parses OBJ and JSON files to render objects and their respective skeletons.
- Subdivides surfaces using Catmull-Clark Subdivision.
- Created a joint weight editor so users can adjust how much influence a joint has on the mesh.

SteerLite Crowd Simulator

Desktop Application
C++

- Group project that Implemented various algorithms including A*, GJK collision detection, and Social Forces.
- Focused mainly on efficiency and collision detection.
- Extended GJK to detect concave polygons.
- Achieved excellent benchmarks on multiple test cases.

Walt Disney World Trip Planner

Web Application
HTML, CSS, JavaScript (Node.js and Express), MongoDB

- Allows guests to plan their day at the resort.
- Displays attraction wait times and current weather conditions.
- Utilizes the following APIs: ThemeParks and TouringPlans

RU Studying

Web Application
HTML, CSS, Python/Flask

- Helps students find empty classrooms, in real time, during school hours to study in.
- Students can select their campus and building of choice to find available classrooms.
- Utilizes the Rutgers University API for schedule of classes.

Gradebook

Web Application
HTML, CSS, Go

- RESTful application that uses POST, GET, DELETE, and UPDATE functions.
- Computes student averages.
- Uses a JSON file as its database and gets modified based on the user's query.

Special Permission Number Request System

Web Application
HTML, CSS, Java, MySQL

- Group project for a Databases course at Rutgers University.
- Students can register for a ticket (SPN) for courses that are full.
- Professors can check student credentials and grant access to the course.
- Focused mainly on developing the backend to connect the frontend with the database and designing the UI.