Jonathan Lee
Software & Graphics Engineer

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www.JonLee.xyz

EDUCATION

University of Pennsylvania • May 2018 (expected) **MS Engineering, Computer Graphics and Game Technology** *Courses: Computer Animation, Advanced Rendering, GPU Programming, Game Design, 3D Modeling, Physically-Based Animation*	**Rutgers University** • January 2016 **BS, Computer Science** • Dean's List *Courses: Computer Architecture, Algorithms, Databases, Operating Systems, Distributed Systems*

SKILLS

Programming Languages	C++, Python, OpenGL, JavaScript, HTML/CSS
Software	Maya, Houdini, Unity, Photoshop, Illustrator, Premiere, After Effects

WORK EXPERIENCE

University of Pennsylvania • *Philadelphia, PA*
App Developer • *February 2018 – March 2018*
- Developed an augmented reality scavenger hunt app, **ScavengAR Hunt**, in C# using Unity and Vuforia for Penn's 2018 Teach-In event which was shipped to both the Apple App Store and Google Play Store.
- Wrote the gameplay and backend for scorekeeping and player registration.
- Designed the AR image targets used for the scavenger hunt and game UI.

The Walt Disney Company • *Orlando, FL*
Disney College Program Cast Member • *January 2016 – July 2016*
- Recognized by management and coworkers for exceptional performances in a fast paced and high capacity location.
- Integrated and implemented leadership and management skills from a course in Disney Leadership.

Today's Business • *Today's Business*
Digital Developer Intern • *May 2015 – August 2015*
- Collaborated with the graphic design team to develop content for webpages
- Maintained client webpages through WordPress (HTML/CSS, JavaScript, PHP)
- Designed and created landing pages through Instapage and FalconSocial
- Ensured client search visibility and utilized Google Analytics to generate SEO reports

PROJECTS *(complete portfolio with demos, videos, and artwork available at www.JonLee.xyz)*

Monte Carlo Path Tracer • *C++, Qt*
- Physically-based renderer that renders 3D scenes defined by a JSON file.
- Supports Multiple Importance Sampling, Global Illumination, and Volumetric Rendering.
- Optimized render times using a BVH acceleration structure and multithreading.
- Handles various materials including Fresnel Reflectance and Microfacet Models.

Sticky Bun (Finite Element Method Jello Simulator) • *C++, Houdini*
- Implemented collision detection using signed distance fields and OBJ/BGEO file I/O.
- Designed and rendered scenes using Houdini with Mantra.

Mesh Editor • *C++, OpenGL, Qt*
- OBJ and skeleton JSON files to draw 3D models and binds the skeleton to the model which allows the user to pose the model.
- Implemented a half-edge mesh data structure to represent polygon meshes and a heat map to adjust joint influence.

Special Permission Number Request System (Web App) • *Java, HTML/CSS, MySQL*
- Lead full-stack developer – developed UI elements and backend to retrieve data from the database.

Short Films

Playing by the Book • *2015* • *www.JonLee.xyz/PlayingByTheBook*
- *Director, Writer, Animator*
- New Lens Film Festival 2015

Deleted • *2013* • *www.JonLee.xyz/Deleted*
- *Director, Writer, VFX Artist*