Crystal Lee

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Education

University of Pennsylvania, School of Engineering and Applied Science

BSE in **Digital Media Design**, Department of Computer and Information Science, **May 2019**

Relevant Coursework

Graphics: Procedural Computer Graphics, Physically Based Animation, Computer Animation, Interactive Computer Graphics; Advanced Computer Graphics; 3D Modeling; Data Visualization
Software: Game Design Practicum, Software Design/Engineering; Introduction to Algorithms; Programming Languages and Techniques I & II

Skills

Programming Languages: C++, Java, Javascript, HTML, CSS, Swift, OpenGL, glm, Eigen
Graphics: Autodesk Maya, Houdini, ZBrush, Unity, Unreal, Photoshop, Illustrator, InDesign

Work Experience

Walt Disney Animation Studios – Los Angeles, CA; Software Engineering Intern **Summer 2018**
· Worked in the Production Technology department at Walt Disney Animation Studios as a summer intern.
· Developed for Meander, the most popular drawing engine for applications across the Disney Studios.
· Explored tile-based rendering and the support for Apple's Metal renderer.

University of Pennsylvania – Philadelphia, PA; Teaching Assistant **Spring 2018**
· Taught intro-level computer science to graphic design students in Java Processing Workshops.

SIG Center for Graphics – Philadelphia, PA; Research Assistant **Summer 2017**
· Conducted research under Dr. Norman Badler and the Penn Arts Council Grant (see Projects for details).

Projects

Plant Buddy **Spring 2019**
· Created interactable, real-time plant raising simulator (like Tamagotchi) as Chrome web extension.
· Used L-systems to simulate plant growth. Worked for four months using Javascript and WebGL.

Material Point Method Snow Simulation **Fall 2018**
· Implemented the Material Point Method for Simulating Continuum Materials by Chenfanfu Jiang.
· Used Poisson Disk Sampling to generate random samples of a mesh.
· Worked alone over 8 weeks using C++ and OpenGL.

3D Visualization Research Project (Penn Arts Council Grant) **Summer 2017**
· Collaborated Matterport Scans to acquire 3D models of Penn Museum's Native American exhibit.
· Used HTML, JS and CSS to connect them, add labels, and hide specific sections for security/aesthetic reasons.

UPenn Transplant Rehabilitation App **Spring 2017**
· Developed web application with frontend and backend database management to rehabilitate patients after liver, lung, or kidney transplants.
· Now used by real medical practitioners at the Hospital of the University of Pennsylvania.
· Worked with two team members over the course of eight weeks using Javascript, HTML, and CSS.

Monte Carlo Path Tracer **Spring 2017**
· Wrote a MCPT renderer using C++/OpenGL. Worked alone over 7 weeks, with a deliverable due each week.

Mini Minecraft **Fall 2016**
· Replicated the video game "Minecraft" over three weeks using C++ and OpenGL with two team members.

Activities

SIGGRAPH, Member **Fall 2015 – Present**
Women in Computer Science, Member **Fall 2015 – Present**
Korean Student Association, Member **Fall 2015 – Fall 2016**