EMILY VO

CONTACT
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http://linkedin.com/in/emilyvo

COMPUTER GRAPHICS ENGINEER | ARTIST
http://www.emilyhvo.com | Demo Reel: https://vimeo.com/239528418

EDUCATION

University Of Pennsylvania

BSE in Digital Media Design (Computer Science), 3.3 GPA

MSE in Computer Graphics & Gaming Technology, 3.8 GPA

SKILLS

Interests: Maya Plugin Development, Physically Based Animation, Physically Based Rendering, Procedural Graphics, VR Development

Languages: Java, Python, C, C++, C#, Javascript, HTML & CSS

Tools: DXR, CUDA, OpenGL, Three.js, D3.js, Unity3D, Google Cardboard & Daydream, Unreal Engine 4

Artist Software: Maya, Houdini, ZBrush, Substance Designer, Adobe Creative Suite

COURSEWORK

Operating Systems
Game Design Practicum
Software Design & Engineering
GPU Programming
Physically Based Animation
Advanced Topics in Computer Graphics
Procedural Graphics
Physically Based Rendering
Computer Animation
Algorithms and Data Structures
Intro to Computer Systems
Advanced 3D Modeling
Drawing I & II
Painting I

INTERESTS

Legend of Zelda, Dog Trick Training, Art History, Japanese

HONORS AND AWARDS

HackMIT, Google Cardboard Dev. Prize for ColoVR, 2016

Penn School of Engineering and Applied Science, Electrical Engineering Senior Design's Best Mentor Team

Penn School of Engineering and Applied Science, Outstanding Teaching Award, 2019

WORK EXPERIENCE

June 2019 - Present

Production Software Engineer
Blue Sky Studios

Spr 2017 - Spr 2019

CIS Graduate Teaching Assistant
University of Pennsylvania

CIS566: Procedural Graphics, Spring 2019
- Assisted students with their procedural graphics projects in WebGL and Javascript in office hours
- Assisted instructor with course logistics and grading

CIS561: Physically Based Rendering Techniques, Spring 2019
- Assisted students with their C++ Monte Carlo Pathtracers in office hours
- Assisted instructor with course logistics and grading

CIS563: Physically Based Animation, Fall 2018
- Assisted Dr. Chenfanfu Jiang with instruction for a graduate level computer science course where students implement physically based animation techniques for fluid and solid simulation in C++

Summer 2018

Production Software Engineering Intern
Blue Sky Studios
- Wrote Python script for asset publish slack notifications
- Wrote Python script for automated migration from subversion to git version control
- Designed and implemented Maya plugin in Python and PyQt for displaying scene's performance metrics
- Used Pixar's USD Python API to procedurally converted Moana Island scene geometry to USD

Summer 2017

Software Engineering Intern
Lockheed Martin
- Worked on Internal Research and Development team for Mission Planning Visualization
- Used D3.js and ASP.NET to create mission planning data visualization application

PROJECTS

Fall 2018

GPU Path Tracer, *CUDA and C++*
- Features KDTree with surface area heuristic, dispersion effects, sphere tracing and signed distance functions, stream compaction and materials sorting
- Github Link: https://github.com/emily-vo/cuda-pathtrace

Fall 2018

Yuki: A Material Point Method Implementation, *C++ and Houdini*
- Particle simulation of snow with rigid body collision
- In collaboration with Alexander Chan
- Responsibilities include MAC grid implementation, deformation gradient evolution, snow plasticity, fixed-corotated elasticity, mesh sampling, particle-grid transfers, and APIC

Spr 2018

Kemuri: Smoke Simulation, *C++ and Houdini*
- Eulerian fluid solver extended to handle buoyancy and vorticity confinement forces
- Demo: https://vimeo.com/268908450

Spr 2018

Oishi: Elastic Solid Simulation, *C++ and Houdini*
- In collaboration with Alexander Chan and Tabatha Hickman
- Implemented Finite Element Method with Neo-Hookean Elasticity Model
- Demo: https://vimeo.com/268916758

Spr 2018

Machi: Procedural City Forgery, *three.js*
- Procedurally generated a city with continuous real-time traffic simulation
- Implemented voronoi cell road networks, biocrowds simulation with obstacle avoidance, procedural buildings, and bloom, sobel, and composite post processing shaders

Fall 2016

ColoVR, *Google Cardboard & Daydream, Unity3D and C#*
- Virtual reality coloring book application
- Winner of HackMIT's Google Cardboard Development Prize
- Demo: https://devpost.com/software/colovr