

CAROLINE LACHANSKI

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EDUCATION

University of Pennsylvania, School of Engineering and Applied Sciences Philadelphia, PA
Candidate for **MSE** in Computer Graphics and Game Technology, **GPA:** 3.85/4.0 Fall 2019
Candidate for **BSE** in Digital Media Design, **GPA:** 3.74/4.00, **Minors** in Fine Arts, Mathematics Fall 2018
Coursework: Interactive Computer Graphics, Rendering, Computer Animation, Procedural Graphics,
Game Design, Data Structures and Algorithms, Intro to Algorithms, Linear Algebra, Computer Systems, iOS
Development, Discrete Mathematics, 3D Modeling

SKILLS

Programming: C++, OpenGL/WebGL, C#, Unity, Java, Python, C, Swift, Git, JavaScript, Visual Studio, Qt
Additional Software: Adobe Photoshop, Illustrator, InDesign, Autodesk Maya, SOLIDWORKS, Microsoft Office

EXPERIENCE

University of Pennsylvania Price Lab for Digital Humanities Philadelphia, PA
3D Programming Intern Sept 2018 - Present

- Develop interactive VR experiences for visualizing archaeological artifacts and locations using Unity and C#

STRIVR

Software Engineering Intern, under Rama Pagadala (Director of Engineering) Menlo Park, CA
May 2018 - Aug 2018

- Developed soft skills training application for Oculus Rift and Go using Unity and C#
- Worked with 6+ person team of developers and artists employing Agile methodology and TFS
- Developed new workflow for storing and accessing project assets with asset bundles stored on disk
- Implemented 3 new shaders, made UI/UX changes, and added features such as a spherical video scene

University of Pennsylvania Engineering Summer Academy at Penn Philadelphia, PA
Residential Teaching Assistant June 2018 - July 2018

- Instructed 30+ high school students in 3D modeling with Maya for college-level computer graphics course
- Advised and mentored students, planned social events, and ensured conducive learning environment

PROJECTS

Monte Carlo Path Tracer: C++, Qt Spring 2018

- Multi-month project to develop path tracer, culminating in photon mapper using k-d tree
- Implemented various integration methods including direct lighting, full lighting, and naive integration
- Added features such as depth-of-field, implicit surfaces, different light sources and materials

Mini Minecraft: C++, OpenGL, Qt Fall 2017

- Worked on 3-person team to develop Minecraft-like game
- Implemented procedurally generated terrain with 2D fractal Brownian motion, raymarching for interaction with environment, and multithreading in terrain generation

Mini Maya: C++, OpenGL, Qt Fall 2017

- Implemented mesh editor with GUI allowing for import of OBJ files, half-edge manipulations such as face extrusion, Catmull-Clark smoothing, face triangulation, and skeleton skinning

LEADERSHIP

Residential Advisor, Kings Court English College House, University of Pennsylvania Fall 2017 - Present
Provide advising for 40+ undergraduates, plan and execute 30+ academic and social events per year for residential community, facilitate interactions between residents, Penn faculty, and community

Advancing Women in Engineering Student Advisory Board Spring 2015 - Present
Lead undergraduate social committee, organize events in order to address issues specific to female engineering students, enhance their overall undergraduate experience, and improve retention

Penn SIGGRAPH ACM Board Spring 2017 - Present
Plan professional workshops, social events, and mentoring program for school computer graphics community