

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:** 3.85/4.00 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, Physically-Based Rendering, Computer Animation, Procedural Graphics, Game Design and Development, Data Structures and Algorithms, Intro to Algorithms, Linear Algebra, Computer Systems, iOS Development, Discrete Mathematics, 3D Modeling

SKILLS

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

EXPERIENCE

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

- Developed workplace communications 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 Price Lab for Digital Humanities Philadelphia, PA
3D Programming Intern Sept 2018 - Present

- Develop interactive VR/AR experiences for Oculus Rift and HoloLens for visualizing archaeological artifacts and locations using Unity, C#, and Vuforia

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 graphics course

PROJECTS

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

- Implemented path tracer, using various integration methods including direct lighting and global illumination with multiple importance sampling, culminating in photon mapper using k-d tree
- Added features such as thin lens camera, implicit surfaces, various light sources and materials

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

- Worked on 3-person team; implemented procedurally generated terrain with 2D fractal Brownian motion, raymarching and ray-cube intersections for interaction with environment, A* algorithm to determine movement of non-player character, distance fog, 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 Fall 2017 - Present

- Provide advising for 40+ undergraduates, plan and execute 30+ academic and social events per year

Penn SIGGRAPH Board Spring 2017 - Present

- Work with 8-person board to plan professional workshops, social events, and mentoring program

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

INTERESTS

Traditional and digital illustration, film, animation, fiction novels, women in STEM, K-pop music, manga