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 ⠀⠀⠀⠀⠀⠀⠀⠀⠀⠀⠀⠀Menlo Park, CA
Software Engineering Intern, under Rama Pagadala (Director of Engineering) ⠀⠀⠀*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