

Education

MS in Computer Science		Starting Fall 2016
BS in Computer Science		University of North Carolina at Chapel Hill
Minor in Mathematics		Class of 2016
Computer Science		Mathematics
Computer Graphics	Files and Databases	Advanced Calculus
Sound Simulation	Honors Operating Systems	Linear Algebra
Serious Games	Data Structures	Discrete Mathematics
Business of Games	Advanced Web Programming	Differential Equations
Computational Photography	Compilers	Multivariable Calculus
Computer Security	Computer Architecture	Intro to Physics
Software Engineering Lab	Digital Logic & Comp. Design	
Algorithms	Models of Lang. and Comp.	

Employment

Technical Lead on the Student Volunteer Subcommittee	2015-2016
SIGGRAPH	
<ul style="list-style-type: none"> In charge of overhauling the volunteer system, creating an app for the volunteers and leaders to use during the conference to update schedules and send announcements, and in general helping the committee perform their duties 	
Platform Architecture Graphics Intern	2015
Apple	
<ul style="list-style-type: none"> Developed an internal tool suite using Autodesk's FBX SDK Created a Metal app to demo advanced rendering techniques 	
Research Assistant	2015
University of North Carolina at Chapel Hill	
<ul style="list-style-type: none"> IRB certified user study group testing benefits of sound propagation using UNC's ray-tracing based sound system In charge of the reverberation tests. Created the test and performed it on various participants Paper to be published describing our methods of testing reverberation and diffraction and their results 	
Teaching Assistant	2014-2016
University of North Carolina at Chapel Hill	
<ul style="list-style-type: none"> (4 semesters) Intro course to Computer Science teaching programming practices through HTML, CSS, Javascript, and Excel for non-majors Duties included grading assignments and tests, holding weekly recitations and office hours (or by appointment), and creating exams (1 semester) Fred Brooks' History of Computing course Duties included grading students' papers and maintaining the course website and materials 	
Team Leader	2015
SIGGRAPH	
<ul style="list-style-type: none"> In charge of Merchandise and Media, organizing student volunteers, and in general helping the Student Volunteer Subcommittee before the conference 	
Student Volunteer	2013-2014
SIGGRAPH	
<ul style="list-style-type: none"> Assisted in operational duties and was a liaison for the technologists at E-Tech and the Art Gallery for the annual SIGGRAPH conference 	
Volunteer Tutor	2013-2016
Computer Science Club	
<ul style="list-style-type: none"> Weekly computer science tutor sessions for all programming courses I've taken 	

Sarah Elizabeth Rust

Skills

- Java, C, C++, HTML, CSS, Javascript, PHP, SQL, Verilog, Matlab, Objective-C, Metal, Python
- Unity, Adobe Illustrator, Adobe Photoshop, Mudbox, Maya, Blender

Additional Experience and Awards

Apple's WWDC Student Scholarship 2014

- Received a scholarship to attend WWDC by creating and submitting an iOS app

HackNC Marketing Chair 2014-2015

- Designed and implemented a marketing campaign for a hackathon at UNC for over 600 attendees

Hackathons

- MHacks • VTHacks • HackDuke • HackNC • PearlHacks • HeelHacks

ACM Programming Competition 2014-2015

- Worked in a team to solve problems using data structures and algorithms

Conferences

- Game Developer's Conference 2012
- Apple's WWDC 2014, 2015
- ACM SIGGRAPH 2009-2015
- Grace Hopper Conference 2015

Clubs

- Women in Computer Science (President 2015-2016, Vice-President 2014-2015)
- HatCH (hardware club)
- CS Club
- Cybersecurity Club

Projects

Mentored Research Project

- Creating and testing a multiplayer 3D audio game that teaches the visually impaired how sound can give clues about their environment

Blender Integration with OSVR

- Software Engineering Project with OSVR client: plug-in for Blender using my team's Python wrappers for OSVR's API to output to a VR HMD

Recursive Raytracer

- Computes intersections using Blinn-Phong shading in C++ and displays via OpenGL

Face Morphing

- Morphs two images to a common Delauney triangulation and blends the intermediate images together

Table-top Game Website

- Enables multi-user table-top gaming over a websocket. Features include chat, dice, a toybox, and stored board sessions with moveable pieces

Pong for Two

- Two-player pong written in C and another version in MIPS assembly

Single-cycle CPU

- Processor designed in Verilog hardware description language for a FPGA board that displayed on a monitor. Tested with a constantly animating graphic that can move around on the screen.

Chess

- MVC object-oriented chess board in Java with graphical interface