

Sarah Forcier

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EDUCATION

UNIVERSITY OF PENNSYLVANIA

MSE IN COMPUTER GRAPHICS AND
GAME TECHNOLOGY

Expected Dec 2017 | Philadelphia, PA
GPA: 3.80

CORNELL UNIVERSITY

BACHELOR OF ARTS

May 2016 | Ithaca, NY
GPA: 4.14

LUDWIG MAXIMILIAN UNIVERSITY

Spring 2015 | Munich, Germany

SKILLS

PROGRAMMING

- C++
- Java
- C
- Python
- OCaml
- Javascript/HTML/CSS
- GLSL

SOFTWARE

- Maya & MEL
- Houdini
- After Effects
- Git
- Mathematica

LANGUAGES

- German
- French

AWARDS

- Eckert Fellow; 2016
- Cum Laude; 2016
- Merrill Presidential Scholar (top 1% of class); 2015
- DAAD Research in Science and Engineering scholarship; 2014
- Rawlings Cornell Presidential Research Scholar; 2012

COURSEWORK

- Computer Animation
- Advanced Computer Graphics
- Procedural Graphics
- 16mm and Digital Filmmaking

EXPERIENCE

CORNELL UNIVERSITY

TEACHING ASSISTANT, OBJECT-ORIENTED PROGRAMMING

January 2016 - May 2016 | Ithaca, NY

- Led discussion section, held office hours, graded projects and exams for a course of 700 students among 25 TAs

PROJECTS

January 2017 - Present

REAL TIME IMPLICIT SURFACES Javascript, WebGL, THREE.js

- Implemented a real time metaballs and isosurface using marching cubes algorithm
- Constructed 7 metaballs with 1800 tris running at 28 fps

REAL TIME SHADERS Javascript, WebGL, THREE.js, GLSL

- Designed a toon shader, matcap shader, and iridescent shader
- Incorporated a post process bloom effect with 2 passes: High-pass filter and Gaussian blur

INTERACTIVE SHAPE GRAMMAR Javascript, WebGL, THREE.js

- Built a procedural town and terrain modeled with multi-octave perlin noise function
- Designed a shape grammar with 12 subdivision rules and 10 variables

LSYSTEM Javascript, WebGL, THREE.js

- Developed a LSystem parser and designed a grammar for deciduous budding trees
- Implemented an interactive parser with 18 generations at 28 FPS

MONTE CARLO PATH TRACER C++, Qt

- Programmed a multi-threaded path tracer with 2.25x speedup
- Handled specular and transmissive surfaces with multiple BSDFs

August 2015 - December 2015

RAY TRACER Java, OpenGL, GLSL

- Implemented Cook Torrance material, anisotropic shading model for polished wood, environment mapping, normal and texture mapping;
- Achieved speedup with a BVH acceleration structure

HOBBIES

Ice Hockey, Scuba Diving, Bartender, Windsurfing, Snowboarding