

SKILLS

Programming Languages*Experienced:* Bash, C/C++, CUDA, Python*Intermediate:* GLSL, Java, L^AT_EX*Introductory:* CSS, HTML, MATLAB, OCaml**Software**

Adobe Photoshop, Illustrator, Premiere

Blender, Eclipse, Git, Meshlab,

Quartus, Visual Studio, VirtualBox

Programming Frameworks*Graphics & Rendering:* DirectX, OpenGL, OpenVR*Parallel Computation:* OpenCL, OpenMP, MPI, ISPC**Operating Systems**

RedHat and Debian based Linux Distributions

Mac OSX

Windows 8, 10

EDUCATION

Masters of Science, Cornell University (Ithaca, NY), May 2017**Major:** Computer Science **Minor:** Computational Science and Engineering*Relevant Coursework:*

- Design in Virtual Reality (CS 4654)
- Applications of Parallel Computation (CS 5220)
- Realistic Image Synthesis (CS 6630)
- Matrix Computations (CS 6210)
- Nonlinear Dynamics and Chaos (MAE 5790)

Bachelor of Arts, Cornell University (Ithaca, NY), May 2015**Major:** Computer Science **Minor:** Cognitive Science*Relevant Coursework:*

- Introduction to Computing Using Java (CS 1110)
 - Introduction to C (CS 2022)
 - Unix Tools and Scripting (CS 2043)
 - Data Structures (CS 2110)
 - Discrete Mathematics and Structures (CS 2800)
 - Functional Programming (CS 3110)
 - Computer Architecture (CS 3410)
 - Operating Systems (CS 4410)
 - Computer Graphics and Practicum (CS 4620/4621)
 - Computer Vision (CS 4670)
 - Introduction to Theoretical Computing (CS 4810)
 - Introduction to Analysis of Algorithms (CS 4820)
 - Interactive Computer Graphics (CS 5625)
 - Physically Based Animation for Computer Graphics (CS 5643)
 - Integral Calculus (Calculus II) (MATH 1910)
 - Multivariable Calculus (Calculus III) (MATH 1920)
 - Basic Probability (MATH 4710)
 - Mechanics and Special Relativity (PHYS 1116)
 - Perception Psychology (PSYCH 2050)
 - Biological Psychology (PSYCH 2230)
 - Brain, Mind, and Behavior (COGST 1110)
 - Cognitive Psychology (COGST 2140)
 - Human Perception: Application to Computer Graphics, Art, and Visual Display (COGST 3420)
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RESEARCH EXPERIENCE

Graduate Research Assistant – Cornell University

(Jun 2015 – Present)

- Thesis focuses on real-time inference of articulated motion (e.g., a desk lamp, a pair of scissors).
- Thesis work on reconstruction of deformable materials using range cameras.
- Cross-platform support for a variety of range cameras using CUDA, Compute Shaders, or CPU depending on hardware.

Embedded Systems Research Assistant – Columbia University

(Jul 2013 – Aug 2013)

- Ported the Linux kernel 3.9 to both soft-core CPUs and Hard ASIC CPU/FPGA single die systems.
- Manually prepared partition maps, root filesystems, boot loaders and kernel images for persistent-boot configurations.
- Experimented with NiosII and ARM designs for use with Altera, Solarflare, and Xilinx FPGAs to streamline the process of running the Linux kernel on these boards for use in a classroom setting.

Research Assistant – Cornell University Neurobiology of Learning and Memory Lab

(Sep 2011 – Oct 2012)

- Assisted a graduate researcher’s study of cognitive deficits by examining brain lesions of rats to determine the functionality of the anterior thalamus in the greater memory circuit.
- Became fluent with the methods, goals and implications of the odor discrimination task.
- Handled rats, prepared them for the learning task and administered tests, recorded results of the trials.

TEACHING EXPERIENCE

Instructor: Unix Tools and Scripting – Cornell University

(Jan 2016 – Mar 2016, Jan 2017 – Mar 2017)

- Redesign and revamp course, including lecture material and assignments.
- Administrate course logistics, manage TAs.
- Conduct three lectures weekly, focusing on “hands-on” learning.
- Course website: <https://cs2043-sp16.github.io>, <https://cs2043-sp17.github.io>

Computing and Information Science Teaching Assistant – Cornell University

(Aug 2011 – Present)

- Teaching assistant for a wide range of courses, including:
 - Introduction to Computer Architecture
 - Introduction to Computer Graphics
 - Honors Data Structures
 - Introduction to Computing using Java (and later Python)
 - Introduction to Web Development (guest lecture: Color Science)
- Manage other teaching assistants, serve as the main point of contact for students in distress.
- Lead recitation and lab sections and hold regular office hours.
- Grade students’ programming submissions and provide thorough feedback.

Sea Kayaking Instructor – Cornell University Outdoor Education

(Jan 2011 – Oct 2012)

- Led multiple-day sea kayaking trips in the Adirondacks and 1,000 Islands regions.
- Trained students in the necessary planning and survival skills, including self and assisted rescue protocol.
- Instructed various hard skills while maintaining sensitivity to the varied skill levels and physical abilities of students.

HOBBIES AND INTERESTS

More information available at my website, here: <https://stephen-j-mcdowell.github.io>