

OTTAVIO HARTMAN

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EDUCATION

University of Pennsylvania, College of Arts and Sciences December 2018
Candidate for Bachelor of Arts in Computer Science, Cinema Studies
Cumulative GPA: 3.27/4.00

- Applicable Courses: GPU Programming, Data Structures and Algorithms, Mathematical Foundations in Computer Science, Operating Systems, Software Engineering

WORK EXPERIENCE

University of Pennsylvania, Philadelphia, PA August 2017–present
Teaching Assistant, GPU Programming (graduate course)

- Explain GPU architecture and parallel programming algorithms like reduce, scan, and stream compaction to 30+ graduate students
- Update C++ projects which use CUDA, WebGL, and Vulkan to test students' understanding of GPU programming and modern graphics techniques

Analytical Graphics Inc., Philadelphia, PA Summer 2017
Software Development Intern

- Pioneered creation of GitHub bot with JavaScript and Node.js which actively monitors and responds to the activity of a large open-source project
- Increased team productivity by moving a code linting service into a Node.js package for use across 9 repositories

Pixar Animation Studios, Emeryville, CA Spring 2017
Global Technology Intern

- Reduced memory usage for massive out-of-core shot conversions by 60% (~8GB/CPU) and time by 15% on shots in the film "The Incredibles 2"
- Further reduced shot conversion workload by introducing sparse frame conversion in place of contiguous frame conversion with C++ code

GRASP Lab, Philadelphia, PA Summer 2016
Robotics Software Researcher

- Employed point-cloud algorithms on a Raspberry Pi to detect doors in less than one second in environment of 5,000+ points
- Designed C++ software to accumulate and align LIDAR point clouds in real-time using Point Cloud Library

TECHNICAL SKILLS

- Languages/APIs: C++, JavaScript, Rust, Python, C, GLSL, Java, Node.js, CUDA, OpenGL
- 3D graphics: Deep understanding of path-tracing, rasterization, shading techniques, parallel algorithms

PROJECT EXPERIENCE

- Rust Libz Blitz: Fixed 12 issues in the low-level Rust crates "log" and "memmap"
- JSON Parser: developed fast and lightweight JSON lexer and parser library with Rust