

Areas of Interest

- I am a recent graduate who has worked in embedded systems design and programming, interface and game design, CMOS chip development, and others included in the broad variety of multidisciplinary engineering topics offered by my alma mater. I am especially interested in accessible and pragmatic human-computer interaction design. My personal projects, which I believe describe me best, can be found on my website.

Employment

Looking Glass (2017-)

- Interaction Architect - Leveraged Nintendo Joy-Con for use as a 3D input device. Designed a 3D input device for holographic display tech. Worked on various other embedded, software, hardware, psychological hacks.

Harvey Mudd College (2013-2017)

- Kaiam Corporation Clinic (2016-2017) - Worked on a team to design and implement completely original burn-in process for optical data center transceivers (MEMS design, FEM, mixed A/D circuit design, software engineering)
- Open Design Research (Spring 2016) - Working on microprocessor board design for open-source scientific instrumentation.
- Lab126 Clinic (Spring 2016) - Working on a low-cost hardware acoustics testbench for Amazon's Lab126 engineering team (acoustic modeling, mechanical systems design, automation/robotics)
- E85/E11 Grader (2015-2016) - Graded homework assignments for Digital Electronics (E85) and Autonomous Vehicles (E11).
- E4 Proctor (Spring 2015) - Graded and supervised students throughout design, prototyping, and manufacture of various products.
- E11 Lab Proctor (Fall 2014) - Tutored students in design, construction, and programming of autonomous vehicles based on the Arduino platform.

Applied Minds, Inc (Summer 2016)

- Software Team (Summer 2016) - Embedded systems sensor integration for next-gen augmented reality platform.

Millennium Space Systems - Avionics Intern (Summer 2015)

- Modeled and prototyped a modular, programmable power supply circuit to simulate a solar panel's power output.

Celadon Labs - Frontend Designer (Summer 2014)

- Frontend Designer (Summer 2014) - Used paper.js library to design and create interface for application to allow users to design DNA secondary structure.

Stratolab (Summer 2013)

- Software Design Intern - Worked directly with founder on project ideas and development; did design and code for Electropocalypse, a puzzle game about electricity and circuitry.

US Army Research Lab (Summer 2012)

- High School Intern - Coded software to control defunct Army laser rangefinder system. Modeled camera motion based on image output, wrote white paper: "Integration of Camera Systems and Investigation of Optic Flow".

Education

Harvey Mudd College (2013 - 2017):

- B.S.: Engineering (GPA: 3.09); concentration: Music
- Engineering coursework: Autonomous Vehicles, Intro. to Engineering Systems, Intro. to Engineering Design and Manufacturing, Engineering Math, Experimental Engineering, Continuum Mechanics, Analog Circuit Design, Digital Electronics and Circuit Design, Materials Engineering, Engineering Special Topics, Advanced Systems & Controls, Microprocessor Systems Design, CMOS VLSI Design, Advanced Analog Electronics, Engineering Clinic
- CS coursework: CS Principles and Practice, Data Structures & Program Development, Robotics Lab
- Physics coursework: Intro. Physics Lab, Mechanics and Wave Motion, Special Relativity, E&M/Optics
- Math coursework: Calculus, Statistics, Linear Algebra, Differential Equations, Multivariable
- Chemistry, Biology: Structure, Energetics, Dynamics, Intro. Chem Lab; Intro. to Biology
- Humanities: Intro. to Academic Writing, Critical Inquiry (Minimalism); Classical Piano Lessons; Electronic Music Production; Music Theory I; Experimental Cinema / Digital Animation; Craft, Science, and Technology; Fiction Writing Seminar; Game Design Independent Study

Montgomery Blair High School (2009 - 2013)

- Math/Science Magnet Program (100 students/year chosen from >5000 county students)
- GPA: 4.55 weighted / 3.71 unweighted

Technical Skills

- Software: C (real time and embedded), C++, Python, Java, Arduino, Lua, Verilog, LabView, Matlab, ARM assembly, CAD software (mechanical: SolidWorks, Inventor, SketchUp; electrical: Cadence/Altera, KLayout, KiCad, EAGLE), MultiSim, JOGL, Photoshop, HTML, CSS, JavaScript, Racket, ModelSim/Quartus, Prolog
- Hardware: woodworking, machining (mill, lathe) 3D printing, laser cutting/engraving, analog/digital circuit design, soldering (through-hole/SMT), soldering rework

Leadership

- Harvey Mudd Makerspace President - organizing design of brand new makerspace and move to new facilities; processing student project reimbursement requests
- MuddHacks hardware hackathon team leader- ordering electronic components; providing guidance/mentorship on student projects

- Primary manager of three independent computer game design projects: led artists, programmers, musicians, and designers