

## EDUCATION

### Massachusetts Institute of Technology

Graduated June 2018

B.S. in Mechanical Engineering with Conc. in Product Development (Course 2-A)

**Select Coursework:** Product Engineering, Design and Manufacturing, Robotics, Engineering Leadership, Statics and Materials, Dynamics, Thermal-Fluids, Measurement and Instrumentation, Applied Electronics, Numerical Computation, Japanese 4

## INDUSTRY

### Aperia Technologies

Mechanical Engineer

July '18 - Present,

Summer '17 (Intern)

- ❑ Lead engineer of IoT product offering: review of overseas design firm co-development, testing and validation of enclosures and sensors, PCBA design, project management;
- ❑ Driving design releases of 4% estimated savings per unit within 5 months for a purely mechanical automatic tire inflator: interfacing with overseas CMs and vendors, RCA and iterative testing;
- ❑ R&D for next-gen: characterization of critical components and blockers;
- ❑ Designed a prototyping bench: integrated pneumatics (0-200 psi), 2 hr. battery (300 Wh), 110V AC to DC power

### Vecna

MechE Intern | Winter '17

- ❑ Proved concept and validated failure mode cycle lifespan of a novel hydraulic actuator (1,200 psi) through implementation of a test rig for a DARPA funded robot arm project

### Draper

MechE Intern | Summer '16

- ❑ Owned and delivered chassis structure and electronics mounting for a small-scale autonomous test vehicle;
- ❑ Designed for manufacturing and created engineering drawings of 15+ mounts and parts

## PROJECTS

### Coordinate

(Search and Rescue)

Product Design Engineer

Fall '17 - Senior Capstone

- ❑ Delivered alpha prototype GPS system of 10 total devices (3 unique) from concept to live demo in 6 weeks, after user testing and rapid prototyping to balance function, appearance, and manufacturability;
- ❑ Drove electronics integration and plastic parts design: delivered 3 iterations of replaceable battery compartments, designed for buttons, screen, PCBs, antennas, interfaced with EE team on design trade-offs;
- ❑ Implemented design for waterproofing through custom gaskets and liquid adhesives;
- ❑ Created toolpaths for CNC milling and supported rubber molding and finishing processes;
- ❑ Presented on behalf of team at simulated product launch to over 250,000 online viewers and 1100 live ([video](#))

### Aquadio

Co-Founder & Team Lead

Spring '18

- ❑ Led and grew a team of 12 engineers to develop a swim wearable that empowers coaching communication;
- ❑ Aligned multi-disciplinary team, started from zero direction and quickly mobilized around concrete goals;
- ❑ Supported all mechanical aspects: industrial design, waterproofing, pin charging, bone conduction acoustics

### Assistive Robot Arm

Fall '17

- ❑ Delivered serial elastic actuated robot arm in 50% of budget, designed to assist hemiplegic patients;
- ❑ Owned design of arm linkage: aluminum structure, thrust and ball bearing joints, and belt power transmission

## LEADERSHIP

### MIT Phi Kappa Theta

President (Ex- VP, Treasurer)

Spearheaded growth: increased brother residency from 83% to 94%; drove \$70,000 in renovations in 1 year and gathered funding (75% grants); increased summer tenancy income by 22% (\$11,000) in 1 year

### MakeMIT (TechX) Organizer

Coordinated hardware hackathon; individually secured \$12,000 worth of corporate funding and materials

### FIRST Robotics 6112 Team Lead

Achieved first place in state and led engineering and business efforts for a competitive robotics team

## TECHNICAL SKILLS

**CAD & CAM** | Solidworks w/ Simulation (FEA), GD&T, HSMWorks, MasterCAM, Tooling Design, Rendering

**Manufacturing** | Injection Molding, CNC Machining, Lathe, Mill, 3D Printing, Rubber Molding, Investment Casting

**Programming & Electronics** | MATLAB, HTML & CSS, Arduino & Breadboarding, Oscilloscope