

## 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, Product Design Engineer

July '18 - Present, Summer '17 (Intern)

- ❑ Hardware engineering project lead for IoT truck tire pressure sensing offering, drove from concept to production
- ❑ Designed injection molded plastic enclosure: requirements, industrial design, material selection, CAD, tolerance analysis, FEA, DFM, GD&T, prototype qualification
- ❑ Key NPI owner: managed JDM, reliability testing, failure analysis, installation UX, PLM, product BoM, managed 8+ overseas suppliers
- ❑ Two quarterly awards for excellence in inter-department collaboration: primary interface with C-level staff
- ❑ Designed a prototyping bench: pneumatics (0-200 psi), uninterruptible AC to DC power

### Vecna, MechE Intern | Winter '17

- ❑ Designed test fixture and validated cycle lifespan of novel hydraulic actuator (1,200 psi) for a DARPA-funded robot arm project

### Draper, MechE Intern | Summer '16

- ❑ Delivered chassis and electronics mounting for a scaled-down autonomous test vehicle

## PROJECTS

### High Power Cable & Connector | Design Challenge

- ❑ Designed conductor joining system for 400 VDC, 500A, automotive environment, production of 500K units/year, and EMI minimization
- ❑ Analyzed and designed for thermal, fatigue, sealing, power efficiency, corrosion, safety, assembly, and cost considerations
- ❑ Designed for electroplating, die casting, CNC, overmolding, crimping;
- ❑ Presented design, analyses, material selections, and validation plan to a senior engineering team ([slides](#));

### Coordinate | Fall '17 - Senior Capstone

- ❑ Delivered prototype GPS system from concept to demo in 6 weeks;
- ❑ Designed battery compartments and sealing in two unique devices;
- ❑ Rapid prototyped and user tested: created CNC toolpaths, supported rubber molding, finishing
- ❑ Presented at simulated product launch to over 250,000 online viewers and 1100 live ([video](#))

### Aquadio, Team Lead | Spring '18

- ❑ Initiated, recruited, and led a multi-disciplinary team of 12 engineers to develop a swim wearable with fitness analytics and underwater voice communication, raised \$3500 in external funding
- ❑ Key contributor in mechanical aspects: industrial design, waterproofing, charging, bone conduction acoustics

### Assistive Robot Arm | Fall '17

- ❑ Delivered serial elastic actuated robot arm in 50% of budget: owned aluminum arm linkage, bearing joints, belt transmission

## LEADERSHIP

**MIT Phi Kappa Theta** Spearheaded growth and vision: increased brother residency from 83% to 94%; drove \$70,000 in renovations in 1 year (75% grants); increased summer tenancy income by 22% (\$11,000) in 1 year  
*President (Ex-VP, Treasurer)*

**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

**Design** | Solidworks w/ Simulation (FEA), Tolerance Stack-ups, GD&T, Material Selection, Sealing Design

**Manufacturing & Prototyping** | Injection Molding, HSMWorks, MasterCAM, CNC Machining, Lathe, Mill, 3D Printing, Rubber Molding

**Programming & Electronics** | MATLAB, Python, HTML & CSS, Arduino & Breadboarding, Circuit Debugging