KEVIN PALISOC

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EDUCATION

Massachusetts Institute of Technology *Class of 2018*

Candidate for B.S. in Mechanical Engineering with Concentration 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

PROJECTS

Coordinate
(Search and Rescue)
Product Design

- ❏ Delivered alpha prototype of 10 total devices (3 unique designs; 2 are handhelds) within 6 weeks, after 3 rapid iterations of plastic and rubber enclosures, as a leading designer in a product team of 18 students;
- ❏ Drove electronics integration: delivered battery packs and compartments for AAs, 18650s, surface charging, multi-input, and non-reversible features, designed button and screen interfaces, PCB and antenna assembly;
- ❏ Owned waterproofing design, IP67 pending, through custom gaskets and liquid adhesives;
- ❏ Supported manufacturing: created toolpaths for CNC milling in HSMWorks and rubber molding processes;
- ❏ Presented on behalf of team at product launch to over 250,000 unique viewers and 1100 live

Assistive Robot Arm
Mechanical Design

- ❏ Delivered serial elastic actuated robot to safely help hemiplegic patients with household tasks;
- ❏ Owned design of arm linkage: aluminum structure, thrust and ball bearing joints, and belt power transmission

INDUSTRY AND RESEARCH EXPERIENCE

Aperia Technologies
Product Management Intern
Summer 2017

- ❏ Owned pneumatic, electrical, and mechanical systems design of a mobile testing and prototyping bench with an uninterruptible 2 hour battery life (300 Wh) and air storage (10 gal.);
- ❏ Integrated pneumatic regulators and sensors (0-200 psi), UPS and battery, 110V AC to DC power, drawers;
- ❏ Supported PRD creation for second gen automatic tire inflator system at a rapidly growing startup;

MIT Soft Robotics Lab
Researcher
January 2018 - Current

- ❏ Driving design, build, and test of a novel entirely rubber 3 DOF fluidic robot arm as a safe manipulator;
- ❏ Owning finite element analysis to optimize deformation and investigate fluidic power requirements;
- ❏ Driving manufacturing: lost-wax casting, rubber molding, tooling design, working with prototyping vendors

Vecna
Robotics Mechanical Intern
Winter 2017

- ❏ 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;
- ❏ Repaired and validated performance through failure mode cycle testing of a lifting robot

Draper
Autonomous Vehicle Intern
Summer 2016

- ❏ Owned chassis structure and electronics mounting design for a novel autonomous mobility scooter;
- ❏ Designed for manufacturing and created technical drawings of 15+ mounts and parts;
- ❏ Researched path planning algorithms (RRT, A*, POMDP, Dijkstra) to investigate efficiency and safety

LEADERSHIP & ACTIVITIES

MIT Phi Kappa Theta *President (Ex- VP, Treasurer)* — Spearheading 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

MIT (GEL) Program *Student* — Learning engineering industry leadership theory through team simulations and class instruction

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), HSMWorks, MasterCAM, Tooling Design, Rendering

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

Programming & Electronics | MATLAB, HTML & CSS, Arduino & Rapid Prototyping, Signal Processing and Measurement