KEVIN PALISOC

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EDUCATION

Massachusetts Institute of Technology *Class of 2018*

Candidate for Bachelor of Science in Mechanical Engineering (Course 2)

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 novel surface rechargeable battery pack and compartment that accepts both AAs or this pack, designed tablet screen mounting, button 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 the team at the class 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 the second gen automatic tire inflator system at a rapidly growing startup;

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

MIT Soft Robotics Lab *Researcher* *January 2018 - Current*
- ❏ Driving design, manufacturing, and validation of a novel and entirely silicone rubber 3 degrees-of-freedom robotic arm which can safely navigate, manipulate, and adapt to an environment
- ❏ Driving finite element analysis simulation, fluidic power, and lost-wax (investment) casting procedures

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 improve 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