THUAN DOAN Mechanical Design / PD Engineer

University of Michigan

College of Engineering
 M.S. in Mechanical Engineering

Massachusetts Institute of Technology

B.S. in Mechanical Engineering (Course 2)

Stephen M. Ross School of Business
Master of Management

Me@thuandoan.com✓ 310.218.3656

P www.thuandoan.com

June 2015 - May 2017 Ann Arbor, MI

Sept 2011 - June 2015 Cambridge, MA

July 2017 - present

Cupertino, CA

EXPERIENCE

Apple, Inc: Special Projects Group - Product Design Engineer

- Designed, integrated, and implemented a reconfigurable & repairable compute module structure for fleet of testing platforms; the system was developed in collaboration with module DRIs and attribute teams to satisfy competing functional requirements (ie: structural, thermal, noise, safety, harness, tool/service access); systems have been in service for 3+ years
- Designed A-surface exterior casing for a fully integrated, operational protoype; collaborated with industrial designers to go from conceptual surfaces to functional & manufacturable parts; managed integration vendors to ensure assembled parts had a high quality fit-and-finish; functional prototype successfully demoed to executive leadership
- Developed SOP for assembly of exterior housing of high-precision sensors for R&D testing platforms; collaborated with MDE & PD to establish sensor FATP line at Apple's Cork, Ireland facility
- Designed and implemented various prototypes in fast-paced R&D environment to explore new technologies and enable new user experiences; designs ranged from individual technology modules to full-scale integrated testing/experience platforms; responsibilities ranged from concept development to integrated/manufactured solutions

Apple, Inc: Special Projects Group - Product Design Engineering Intern May - Sept 2016 • Designed and fabricated several test setups through collaboration with electrical engineering, Cupertino, CA materials, and product design teams for benchmarking technologies and user studies Developed, implemented, and presented mathematical model from ground up as a framework to analyze, optimize, and understand tradeoffs of considered technologies and parameters MIT Media Lab: Biomechatronics Group - Undergraduate Researcher Sept 2014 - May 2015 • Developed novel torsion spring design capable of undergoing 5x deflection of existing Cambridge, MA solutions for application in robotics and exoskeleton design; patent application submitted Modeled and analyzed design parameters to optimize spring efficiency, deflection, and form factor; completed thesis providing context for future spring development Nest Labs (Google) - Mechanical Engineering Intern June - Aug 2014 Designed tests and analyzed data to optimize smoke detector test setups; changes decreased Palo Alto, CA test result deviations by 15% and were implemented in R&D and production facilities Designed and prototyped mechanical setup enabling in-house RF testing of smoke detectors MIT Laboratory for Biomechanics and Human Rehabilitation - Undergraduate Researcher June - Aug 2013 Designed and prototyped unique body weight support system that naturally supports pelvis Cambridge, MA in experimental robotic system used in patient gait rehabilitation **Boston Dynamics** - Robotics Engineering Intern June - Aug 2012 Completed assembly design, fabrication, and testing of hydraulically-actuated humanoid hands Waltham, MA which were implemented in the final assembly of Petman, a humanoid robot Designed and prototyped electronic enclosures within strict dimensional, geometric, and functional requirements used in preliminary design of Wildcat, a cheetah robot Jan 2012 - Jan 2013

MIT Laboratory for Manufacturing Productivity - Undergraduate Researcher
 Designed and manufactured test rig that integrated rover wheel and sensors used in quantifying soil-wheel interactions in support of Mars Curiosity Mission
 Jan 2012 - Jan 2013
 Cambridge, MA

TECHNICAL SKILLS

- CAD/CAM: NX, Solidworks (w/ Simulation), Fusion 360 ANSYS Mechanical, MasterCAM, OMAX Intelli-MAX
- Industry/Focus: Product Design, Research & Development, DFM/DFA, User Experience, Program Management, Prototyping
- Software: MATLAB, Python

ACCOMPLISHMENTS

- Patent issued & licensed: US10695071B2 for a compact and intuitive civilian tourniquet
- Patent applications: 3