

DAVID DOAN

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EDUCATION

Stanford University

Master of Science Candidate (M.S.c) for Mechanical Engineering

Present

Stanford, CA

Massachusetts Institute of Technology (MIT)

Bachelor of Science (B.S.) for Mechanical Engineering (Course 2)

GPA: 4.6/5.0

June 2017

Cambridge, MA

EXPERIENCE

Relativity Space, Mechanical Engineering Intern

Jun - Sept 2017

- Development of a novel, automated manufacturing process
- Development of in-house toolpath planning for said manufacturing process

MIT Lincoln Beaver Works Center, Researcher

Jan - Jun 2017

- Designed a benchtop system to convert a 1kW generator (four-stroke) to run on hydrogen produced by an Al-H₂O reaction by carburetor injection
- Designed a benchtop system to convert a 1.2kW airplane engine (two-stroke) to run on hydrogen by continuous direct injection at top dead center (TDC) that resulted in higher power density

MIT Global Engineering and Research (GEAR) Lab, Researcher

Sept 2016 - Jun 2017

- Developed MATLAB code in order to decrease the cost of solar powered, drip irrigation systems in developing countries
- Modelled drip-irrigation systems by coupling several subsystem models (solar, pump, water consumption etc.)
- Cost-optimized the system configuration (specific PV, specific water pump, tilt and azimuth angle, etc.) using a genetic algorithm for several different plants for the specific location of Jalgaon, India

Tesla Motors, Drive Systems Engineering Intern

Jun - Sept 2016

- Designed dozens of locating and test fixtures for automated equipment for the current and future stator manufacturing lines
- Researched and implemented automated vision systems to detect defects in stators during the winding stage to prevent rework and scrap
- Analyzed and calculated detailed numbers for future stator lines in order to ensure smooth process flows and provide quantitative metrics for automated deliveries
- Designed and modelled concepts for automated ceramic breaking to reduce cycle times

Space Exploration Technologies (SpaceX), Avionics Engineering Intern

Jun - Aug 2015

- Developed, from design to implementation, a first prototype for automated mechanical testing of >80% of all harness connectors in Falcon 9 and Dragon vehicles
- Designed and implemented over a dozen tooling solutions for several harnesses in order to decrease cycle times and rework
- Identified root cause, tested, and developed a solution for a mechanical issue on Dragon harnesses to prevent mechanical failure and rework

LEADERSHIP

Founding Member, Board Member, Director — [MakeMIT](#)

Sept 2013 - Feb 2015

Founding Board Member — [Design for America](#)

Sept 2014 - Jun 2015

AWARDS AND HONORS

Questbridge Scholar — Massachusetts Institute of Technology

2013 - 2017

National Science Foundation (NSF) Research Fellow — Stanford University

2017 - 2020