

DAVID DOAN

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EDUCATION

Stanford University

Masters 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)

June 2017

Cambridge, MA

GPA: 4.6/5.0

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