Alvaro J. Meléndez

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I'm a sophomore currently studying Mechanical Engineering with a concentration in Electrical Engineering at MIT. I'm interested in electric vehicles, robotics, manufacturing and design. In my free time I enjoy sailing, playing soccer and making things.

EDUCATION

Massachusetts Institute of Technology - Cambridge, MA — Sep 2015 – Present
Undergraduate
Class of 2019 - Mayor: *Course 2A-6 (Mechanical Engineering with Electrical Engineering)*
Relevant coursework: *Mechanics and Materials I, Dynamics and Control I, Numerical Computation for Mechanical Engineers, Electronics for Mechanical Systems, Toy Product Design*

Academia Británica Cuscatleca - Santa Tecla, El Salvador — Graduate June 2015
High School - IB Diploma Program

EXPERIENCE

MIT FORMULA SAE *Battery Pack* - Cambridge, MA — Aug 2016 – Present

- Working on a fully serviceable, two-finger safe enclosure for accumulator HV electronics capable of 15kW
- Adhesive and bus bar insert testing for accumulator
- MATLAB fuse testing data processing and weight minimization

LUCID MOTORS (Formerly ATIEVA, USA, INC) *Powertrain Intern* - Menlo Park, CA — Jun 2016 – Aug 2016

- Designed fixtures for battery pack testing using Siemens NX
- Prepared thermal tests for both cell level and subunit testing
- Managed mechanical and adhesive testing for both cell level and subunit testing
- Served as a technician by helping assemble the 2nd ever Atieva powertrain

MIT Electric Vehicle Team *Mechanical Engineer* **-** Cambridge, MA — Sep 2015 – May 2016

- Worked on converting a gas Opel GT into a street-legal fully electrical car
- Worked with the battery sub-team designing the frame of the car that along with the belly-pan of the car will hold the batteries
- Used FEA in SolidWorks simulation to analyze the structure to ensure that it won't fail
- Designed and created different parts (spacers, motor controller) for the vehicle using SolidWorks

MIT Edgerton Center *Outreach Volunteer* **-** Cambridge, MA — Sep 2015 – Present

- Teach and introduce younger students into the idea of engineering, art and science
- Provide assistance to students on their personal projects
- Designed a night-light to teach over 100 students about basic electronics, art and science in Beijing, China

MakerLodge *Mentor* – Cambridge, MA — Sep 2016 - Present

- Train freshmen on using basic makerspace tools like laser cutters, 3D printers and hand tools
- Will eventually teach students higher tier machines such as lathes and mills

Engineering Design Workshop *Participant* **-** Cambridge, MA — Jul 2014

- Built an electric longboard over the course of a month, using Arduino, motors and motor controllers
- Learned how to ideate, design, prototype and test the skateboard by going through an engineering design process

LEADERSHIP

MakerSpace *Founder* — Santa Tecla, El Salvador

- Started the first ever MakerSpace at my high-school to promote hands-on-learning.
- Installed Raspberry Pi's and Arduinos and taught students how to use them.

Electronics Club *Organizer* — Santa Tecla, El Salvador

- Organized and lead an electronics club intended to teach younger students about basic electronics, soldering and designing PCBs.

SKILLS

Hardware: Electronics, Laser Cutter, 3D Printing, Basic fabrication
Software: SolidWorks, MATLAB, Blender, Java, Arduino, Python, Office
Language: English (Fluent), Spanish (Fluent)

INTERESTS

Electric Vehicles, Robotics, Designing and Building, Sailing, Soccer, Modelling and 3D Printing