Justin Carrus

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EDUCATION

MIT
Course 2-OE Junior
Exp. June 2017 | Cambridge, MA
GPA: 5.0

GEORGE ROGERS CLARK HS
Valedictorian
May 2013 | Winchester, KY
GPA: 4.0

LINKS

Github:// **jcarrus**
LinkedIn:// **justin-carrus**

SKILLS

PROGRAMMING
- JavaScript
- Java
- C/C++
- MATLAB
- Python
- HTML/CSS
- LaTeX
- MEAN Stack

SOFTWARE
- Solidworks/HSMWorks
- Fusion360
- Eagle (basic)
- Adobe Creative Suite

PROJECTS

WIKIMAP
A data visualization in d3.js to show the degrees of separation between Wikipedia pages. Similar to the idea of Six Degrees of Kevin Bacon.

TABLE 3RD
A hackathon project to create a robotic bartender controlled by Venmo payments.

SELF-BALANCING ROBOT
A hackathon project to create a broom that balanced as an inverted pendulum.

EXPERIENCE

MIT FORMULA SAE | Testing and Development Lead
Fall 2013 – Present | Cambridge, MA
A team that designs and builds an all-electric, Formula style race car for competition. Is currently the testing and development lead responsible for managing vehicle level testing and advanced development projects. Additionally, leads a subteam in designing and manufacturing anti-roll bar and suspension rockers. Experience includes research, design, modeling, documentation, and fabrication. Design in Solidwoks, machining on manual and CNC mills and lathes.

MIT D-LAB | Researcher
Fall 2013 – Present | Cambridge, MA
Researching the burn characteristics of charcoal for use as a cooking fuel in developing countries. Work includes original experimental design, apparatus design and fabrication, testing, and documentation. Designed testing apparatus optimized for low-cost while maintaining appropriate statistical resolution. Work has been tested in the field in Tanzania with plans for use in Uganda.

FIAT-CHRYSLER AUTOMOBILES | Summer Intern
June 2015 – August 2015 | Auburn Hills, MI
Worked on system-level mechanical and electrical validation for Jeep Grand Cherokee SRT. Work included developing and validating a quasi-static track simulation for estimating lap times, managing track-day testing and data collection, and presenting issues to management relevant to vehicle release.

FORD SILICON VALLEY LAB | Summer Intern
June 2014 – August 2014 | Palo Alto, CA
Designed a consumer electronic system to be released or open sourced in the near future. Work included physical design and form factor optimization, electronic design and PCB manufacturing, firmware design and implementation in C, and the design of a supporting web application. In the 12 weeks, was personally involved in 3 Ford invention disclosures.

LAB FOR AVIATION AND THE ENVIRONMENT | Research Intern
August 2013 – February 2014 | Cambridge, MA
Aided in the development of a JavaScript web app for the general public that allows easy comparison of the environmental impacts of different modes of transportation.

CLARK COUNTY PUBLIC SCHOOLS | Computer Technician
June 2013 – August 2013 | Winchester, KY
Met with school officials and independently created a JavaScript-based web application to manage student scheduling. Currently in use, supporting over 100 staff and 1600 students.

RESEARCH SCIENCE INSTITUTE | Intern at MIT Space Systems Lab
June 2012 – August 2012 | Cambridge, MA
A 6-week program hosted at MIT, aided in the characterization of RINGS, a test bed electromagnet for the SPHERES platform. RINGS was created to explore the possibility of formation flight using electromagnets instead of traditional fuels. (Launched to the International Space Station on August 3, 2013)

References available upon request