# Malachi Williams

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## Professional Experience

**Boeing, Fuel Systems Design Engineering Intern,** Renton, WA 06/2015 – 09/2015

- Traveled to permanent mold casting foundry to create visual inspection criteria and guidelines for suppliers to mitigate surface discontinuities found on aluminum cast parts
- Built support bracket using CATIA V5 for the fuel quantity indication system wash line tubing, and detailed installation drawings along with a CATIA V4 to V5 conversion
- Investigated and resolved pre-flight volumetric tap off issues and completed drawing change release process in a timely manner as to not impact production

**Boeing, Materials Review Board Liaison Engineering Intern,** Renton, WA 06/2014 – 09/2014

- Developed repair instructions to resolve damage/deviations on the CFM56-7B turbofan engine structure and components
- Utilized knowledge of material specifications and manufacturing processes to ensure that specifications, design, criteria and performance schedules were maintained
- First intern to be sole engineer on site to facilitate engine build up line at 42 airplanes per month build rate

**Boeing, Engine Build Up Design Engineering Intern,** Renton, WA 06/2013 – 09/2013

- Developed, maintained and modified structural engine component designs using CATIA V5 to provide product definition to other engineering groups, production operations, suppliers and customers
- First intern to lead a major product revision improvement project, directed project through release process for the Cowl Thermal Anti-Ice Valve all while working directly with supplier

## Projects

**UWashington Hyperloop |** http://uwashingtonhyperloop.org 06/2015 – Present

- Team Director / Propulsion Team Lead / Manufacturing Team Lead
- Overseeing a team of 45 University of Washington engineering/business students, work statement focuses on computational fluid dynamics, propulsion systems design, finite element analysis, tooling capabilities and pod manufacturing
- Using Python in OpenMDAO platform with pyCycle thermodynamic modeling tool for operational analysis of the Hyperloop pod compression system: inlet, compressors, heat exchangers, ducting and exhaust nozzle
- Comparing studies of cost and engineering scalability of magnetic levitation suspension systems, alongside designing secondary propulsion mechanisms for inflight stability/speed

**Solidworks Projects |** https://grabcad.com/malachi.williams-1/ 12/2014 - Present

- In progress with designing surface model of a conceptual electric sports car
- In progress with designing a fully dimensioned conceptual smart watch
- Designed and developed solid model assembly and drawings of a French press using actual dimensions

## Education

**University of Washington,** Seattle, WA Anticipated Graduation 06/2017

- Majors: Civil/Mechanical Engineering – Dual Degree | Minor: Mathematics
- *Completed Coursework: Intro to Structural Design, Fund. of Materials Science, Construction Materials, Intro to Scientific Computing, Statics, Mechanics of Materials, Intro to Visualization & CAD, Elem. Differential Equations, Matrix Algebra, Multivariable Calculus, Fund. of Electrical Engineering, Engineering Dynamics, Statistics for Engineers*

## Skills

- Proficient (6+ months): Solidworks, CATIA V5, GD&T, MATLAB, Excel / PowerPoint / Word, LaTeX, Spanish
- Familiar: ANSYS, HTML / CSS / JavaScript, NASTRAN, PATRAN