Malachi Williams

malachiw@uw.edu | (253) 722-4073 | malachiw.com

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 team management, 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, MATLAB, Excel / PowerPoint / Word, GD&T, Lean engineering/5S, manufacturing (mills, lathes, drills, molding/casting), LaTeX, Spanish
- Familiar: PDM, Enovia, ANSYS, HTML / CSS / JavaScript, NASTRAN, PATRAN