**Alan Browning**

(215) 512-2266 ∙ [alb409@pitt.edu](mailto:alb409@pitt.edu)

**EDUCATION**

**Bachelor of Science in Mechanical Engineering (BSME)**  **Pittsburgh, PA**

*University of Pittsburgh August 2017 – May 2021*

* Engineering Simulation in Design Certificate
* GPA: 3.95, Summa Cum Laude

**PROFESSIONAL WORK EXPERIENCE**

**Mechanical Engineer I Cedar Rapids, IA**

*Collins Aerospace July 2021 - Present*

* Lead mechanical design engineer for an open systems architecture 3U software defined radio
* Designed chassis for vibrational, thermal, size/weight, & RF (EMI) constraints
* Completed tolerance analyses in high precision areas with tolerances down to +/- 0.001”
* Performed thermal analyses via ANSYS & hand calculations to identify maximum junction temperatures during varying waveforms and load cases
* Validated electro-mechanical interconnect to ensure proper connector mating and pinout
* Created mechanical drawings using GD&T to ASME Y14.5-2018 standards
* Performed engineering change orders (ECO) to modify radios for budgetary, manufacturing, mechanical, & electrical considerations
* Prepared cost & schedule estimates for product development and related pursuits
* Supported integration of existing radios into ground, airborne, and fixed site applications
* Designed and assembled mechanical fixtures to verify radio performance in qualification testing

**Mechanical Engineering****Co-op** **Pittsburgh, PA**

*Covestro LLC (Formerly Bayer Material Science) May 2019 – December 2020*

* Conducted feasibility studies on 30+ automotive, aerospace, and electronic parts to ensure viability of Covestro resins within new applications
* Completed structural and vibrational (NVH) analyses on mechanical systems via Abaqus to quantify stresses due to loadings, impacts, and fatigue
* Performed thermal & fluid flow analyses via Autodesk CFD to optimize maximum temperatures within heatsinks for batteries, LEDs, and other electronic hardware
* Modified designs for customer products to be manufactured with polycarbonate, creating a weight reduction and a cost savings of up to $10,000 per component
* 3D printed & injection molded parts for various commercial and research applications
* Produced technical documentation on material data for new resins

**Student Assistant Pittsburgh, PA**

*University of Pittsburgh Department of Mechanical Engineering August 2020 – May 2021*

* Aided in labs based on data acquisition using sensors within electromechanical systems
* Provided feedback to students on test instruments, statistics, and numerical analysis of lab data

**TECHNICAL SKILLS**

**Technical Skills**

* DOD Secret Security Clearance
* Electro-mechanical product design
* Root cause analysis (RCA)
* 3D modeling & computer aided design
* Computer programming (Java, C++, Python)

**CAD & FEA Software**

* Abaqus & ANSYS
* Autodesk (AutoCAD & CFD)
* PTC CREO
* Siemens NX (Unigraphics)
* Solidworks

**RELATED EXPERIENCE**

**Study Abroad Bavaria, Germany**

*Plus3: Germany May 2018 – June 2018*

* Conducted 3 presentations on automotive technology and company strategy analysis