

Alex Basil

316 Iola Rd || Louisville, Kentucky || 40207



Resume



Portfolio

Education

University of Louisville

Louisville, KY

Mechanical Engineering, BS

August 2015 - May 2019

- Cum. GPA 3.25 || Major GPA 3.35 || Commonwealth Scholarship || River City Rocketry

Experience

SpaceX, Starship Program

Starbase, TX

Structures Build Engineer II

August 2021 - Present

- Led the construction and installation of Starship's first interstage heat shield in just 6 weeks.
- Developed and optimized stacking and welding processes for Super Heavy Boosters in Megabay.
- Extreme owner of the design and implementation of multiple Starship and Booster GSE interfaces.
- Provided critical engineering support for Super Heavy Booster stacking and welding operations.
- Published man-safe wind limits for all Super Heavy Booster build configurations at the production site.
- Implemented a new rigging system for vehicle lifts, enhancing structural integrity and process safety.
- Created work instructions and executed numerous repairs on structural components of the Booster.

Dynetics, Human Landing System (HLS)

Huntsville, AL

Mechanical Engineer

July 2020 – August 2021

- Authored the Dynetics HLS Assembly, Integration, and Test (AI&T) Plan.
- Coordinated with all HLS subcontractors to tabletop review and provide comments to their AI&T Plans.
- Built FEM, analyzed, and provided design modifications for various types of lander support equipment.
- Analyzed main the main propellant system and mounting hardware for the Peregrine lunar lander.

General Dynamics Electric Boat, Hull & External Structures

Groton, CT

Structural Engineer

September 2019 - July 2020

- Secret Security Clearance – Received February, 2020
- Evaluated stress in large structural components and welds using FE models and hand calculations.
- Created calculation packages documenting analysis methods and results to support design changes.
- Wrote engineering dispositions providing technical rationale for engineering drawing changes.

GE Aviation, Engineering Co-op Program

Evendale, OH

Analysis, Test, and Manufacturing Rotations

January 2017 - July 2018

- Received a perfect score (5/5) on two of my three co-op rotation performance reviews.
- Developed tool tracking macro to increase tool utilization by 3%, saving business \$800K annually.
- Redesigned and built pneumatic automated resin valve to save production line \$250K per year.
- Determined material properties of test specimens by creating a calculator in MATLAB and ANSYS.
- Conducted modal analysis and created Campbell diagrams for an engine front frame PDR.

River City Rocketry

Louisville, KY

Payload Sub-Team Lead

August 2015 - June 2019

- Led team of engineers to win the 1st place UAV Payload Award at the 2019 Spaceport America Cup.
- Successfully designed, constructed, and tested an aluminum UAV launching platform in 3 weeks.
- Designed, manufactured, assembled, and launched a high power two-stage rocket within 2 months.
- Developed innovative air-braking mechanism to achieve precision altitudes with solid rocket motors.

Skills & Software

Structural Design & Analysis || Fabrication || Leadership || Project Management || GTAW/GMAW || Lifting & Rigging || Laser Tracking || GD&T || ANSYS || NX || SolidWorks || MATLAB || FEMAP || Red Cross CPR Cert.