

# James B. Phillips

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## SUMMARY

Structural Engineering major from UCSD. The focus of my education has been the structural analysis of all kinds of structures made of many different materials. These include but are not limited to Aerospace and Civil structures made from metals as well as composites. I've also become proficient in using coding to optimize solutions as well as gained much experience with a variety of engineering softwares such as those used for Finite Element Analysis (particularly ABAQUS) and modeling structures (Solidworks and AutoCAD). Throughout my work I've had the opportunity to present projects to and get feedback from engineers in the Aerospace and Civil Engineering industry from all over the world.

### Relevant Courses:

Finite Element Analysis, Steel Design (w/ ASCE Steel Design Manual), Concrete Design, Material Science, Structural Analysis (many courses), Design of Aerospace Structures (mainly Aerodynamics and Plate Theory), Aerospace Repairs

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## EDUCATION

### University of California, San Diego

#### Structural Engineering

Expected August 2022

- Focus in Aerospace
  - UC GPA 3.2 | Upper Division GPA 3.5
  - Worked for 2 years at the UCSD Bookstore
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## PROJECTS

### LUNAR BOOM TOWER

January/2022-June/2022

#### Manifold Lead

- Development of a portable boom tower made of flexible composite Carbon-Epoxy
  - Manifold transitions boom from flat to open and vice versa
- Used SOLIDWORKS and FEA to design manifold
- Assisted in designing and analyzing boom cross section
- Manifold built provided the best stiffness and did no damage to the boom when flattening
- Predicted results were accurate, and our boom tower/manifold outperformed all others in testing

### WIND TURBINE BLADES

October/2021-December/2021

#### Design Lead

- Designed and manufactured blades for a wind turbine (Fiber Glass Epoxy)
  - Blades were designed using intuition as well as virtual testing using Q blade and MATLAB code
  - The blades designed were twice as powerful as the next best design
  - 1<sup>st</sup> place in class competition
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## SKILLS & ACTIVITIES

- SOLIDWORKS, Finite Element Analysis (ABAQUS), AutoCAD, MATLAB & Python coding
- Personalized copy of the AISC Steel Construction Manual
- Structural Analysis of Aerospace and Civil Structures
- HOBBIES: Classical Philosophy, Stand-up Comedy, Skateboarding, Basketball
- Extensive experience with Composites and Metallics