# **Bryson Pierce**

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## EDUCATION

University of California, San Diego

**Bachelor of Science** in **Mechanical Engineering** with a specialization in **Control and Robotics** GPA: 3.97/4.0, *magna cum laude* 

# **TECHNICAL SKILLS**

- Softwares: Solidworks, Fusion360, AutoCAD, FEA, CFD, Blender
- Coding/Scripting Languages: MATLAB, Python, C++, C#, LaTeX
- Manufacturing Methods: 3D Printing, Machining, CNC, GD&T, DFM, DFA
- Robotics/Controls/Electromechanics: Microcontrollers, NVIDIA Jetson, Embedded Systems
- Product Design: PCBA Design, Optics, Thermal Design, Structural Design, EMC, SWaP-C
- Engineering Standards: GSFC-STD-7000B, SMC-S-016, SpaceX RPUG

## PROFESSIONAL EXPERIENCE

#### Aerospace Mechanical Engineer, TRL11

- Designing **complex mechanical assemblies** in **Fusion360**, optimizing **DFM/DFA**, structural integrity, **EMC**, footprint, mass, electrical harnessing, and other factors unique to ruggedized, **space-rated** video equipment.
- Directing the **mechanical design** of **custom PCBAs**, working closely with electrical teams to meet design specs.
- Managing several product lines, owning high and low level design and validation decisions from cradle to grave.
- Authoring technical documentation, including machining drawings, assembly instructions, and ICDs.
- Assembling and calibrating sensitive optical assemblies for flight readiness.
- Developing test fixtures and procedures for TVAC, TC, vibration, shock, and EMI tests.
- Utilized FEA stress, thermal, and modal analysis, ensuring compliance to space industry standards.
- Producing high-fidelity animations and **renderings** in **Blender** for business development and outreach initiatives.
- Facilitating effective **collaboration** among interdisciplinary teams, manufacturers, and clients to meet **expedited timelines** on short notice.

## PROJECTS

#### Illumina Fluid Cartridge Design, Illumina

- Designed and CFD simulated prototypes using SolidWorks.
- Guided manufacturing, including FDM/SLA **3D printing**, **CNC** milling/turning, and **power tooling**.
- Utilized Fusion360 to design and manufacture test fixtures, custom LabView software to conduct testing procedures, and MATLAB to quantify prototype performance through image processing and statistical analysis.
- Initiated, proposed, designed, and tested the team's most successful design, increasing performance by 290%.
- Demonstrated **time**, **project**, **and fiscal management skills** by creating comprehensive **Gantt charts**, meeting tight deadlines, communicating with suppliers, and overseeing a \$5,000 **budget** as the team's fiscal manager.

## Team Robotics Competition, UCSD Jacobs School of Engineering

- Spearheaded the end-to-end development of the intake mechanism, leveraging **Fusion360**, **AutoCAD**, and **MATLAB** in the design process and using **3D printers**, power mills, **laser cutters**, hand tools, band saws, and other industrial machinery to transform **PLA**, **aluminum**, **and acrylic** in the **manufacturing** process.
- Provided technical feedback during **design reviews**, allowing for continual iteration of mechanical components.
- Directed the team to a **first-place victory**, maintaining a record of zero losses in a competition of 41 total teams.

Hobbies/Interests: Astrophysics, Astronomy, Weightlifting, Robotics, Programming, PC Building, Video Game Design

Feb 2023 – Jun 2023

Graduated June 2023

Oct 2021 - Dec 2021

Aug 2023 – Present