Ethan Wadhwa

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Research Skills and Qualifications

- Creating parts, assemblies, and drawings using SolidWorks
- Perform linear and non-linear FEA analysis using SolidWorks
- Designing technical drawings for manufacturing or component assembly
- Knowledge of manual machine shop tools and safety for metalworking
- Manufacturing simple metal parts, working with aluminum and stainless steel
- Data analysis of large datasets using Python and MATLAB
- Circuit construction and Object Oriented Design
- Optical system observation techniques
- Proactive and reactive risk management
- Protocol and documentation writing on collaborative projects

Computing skills: Adept in SolidWorks Design, Proficient in Solidworks Simulation, Adept in MATLAB data analysis and plotting, Proficient in Python data analysis and plotting.

Education

University of California San Diego   Expected December 2023

Bachelor of Science in Physics with Specialization in Astrophysics
Minor in Mechanical and Aerospace Engineering

Research and Teaching Experience

Center for Astrophysics and Space Sciences at UCSD   San Diego, CA

Research Assistant - Simon's Observatory   (July 2021 - Current)

- Designed and simulated a variety of components using SolidWorks
- Designed components for test systems, optical components, and safety reinforcements
- Developed procedures for safe installations and disassembly
- Assisted in assembly and repair of experimental telescope system
- Built small electronics and assembled cable management systems
- Manufactured and machined small components for shipping and test systems
- Collaborated with grad students at UCSD and UChicago for design work and assembly

Coding With Kids   Denver, CO

Instructor   (June 2019 - August 2019)

- Taught students basic computer and coding skills
- Remained patient and calm in high stress environments
- Organized and adapted curriculum to meet student needs

Additional Experience

- Head of Risk Management for Alpha Epsilon Pi at UCSD December 2021 - December 2022
- Presented Fireslide of Design Work at Simon's Observatory Face-to-Face Convention - Summer 2022