PRESTON ALDEN

Mechanical Engineer

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EDUCATION

UTAH STATE UNIVERSITY

B.S.
Mechanical Engineering Major
Computer Science Minor

FE Certified

2019 - 2024
Logan, UT

DESIGN PORTFOLIO

prestonalden.github.io

TECHNICAL SIKLLS

Coding Languages

- Python
- Java
- C++
- C# (Created an entire video game in C#)

Designer

- Regularly use CAD and 3D printing to design, iterate, and manufacture custom mechanical solutions
- Designed and reverse-engineered 30+ twisty and mechanical puzzles, from concept through functional prototype

3D Printing

- Accumulated over 12,000 hours of print time
- FDM (Traditional Filament Extrusion Printing)
- SLA (Resin Printing)

Software Proficiencies

- Solidworks (CAD)
- Fusion 360 (CAD)
- Blender (CAD)
- Maya (CAD)
- Prusa Slicer (FDM 3D Printing)
- Chitubox (SLA 3D Printing)
- Unreal Engine (Game Engine)
- DaVinci Resolve (Video Editing)
- Git (Version Control)
- Unix (Command-Line OS)
- Multiple Different Compiling Softwares

ENGINEERING ACHIEVEMENTS

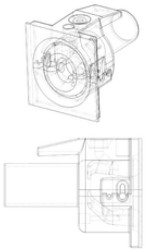
World Record 49x49x49 Rubik's Cube

- Designed, engineered, and assembled the 49x49x49 Rubik's Cube requiring roughly 3000 hours of CAD modeling, 3D printing, part processing, and assembly.
- The puzzle is recognized by Guinness World Records and currently holds the record for The Highest-order Twisty Puzzle ever made, consisting of 13,827 pieces.
- Created a YouTube video that garnered over 330,000 views.
- Completed the project independently, without external collaboration, funding, or compensation.

EXPERIENCE

Animal Research Lab Engineer

December 2021 - Present
USU Odum Lab, Logan, UT



This work was prominently featured in our recent publication in the SEAB academic journal with additional publications forthcoming. The project has been recognized as highly innovative within the scientific community, with several Psychology labs already adopting my nose port design for use in their own studies.

- Designed a custom apparatus for psychology research purposes
- Designed a custom electronic photodetector, light, and solenoid
- Served as the lead engineer, responsible for end-to-end design, prototyping, and integration
- Practiced iterative design work though CAD and peer feedback
- Used resin printing to fabricate the nose ports and additional elements
- Regularly practiced skills in soldering and circuit design

Delta-V Energetics

August 2023 - May 2024
Utah State University, Logan, UT

- Senior Capstone Project
- Designed an explosive drop release mechanism for a drone for avalanche prevention purposes
- Developed integrated remote control and telemetry systems
- Worked in an effective group of five colleagues