Arnav Asthana

Mechanical engineering student. I design in CAD and build what I design.

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UNS 60U Reef System

Problem Design a closed-loop reef system within space and budget limits.

What I did Modeled the stand, sump, plumbing, and equipment bay in Fusion 360, built it, and fixed a microbubble problem with a bubble trap.

Result Built a ~30-gallon system for under $350 with a siphon break. It has never leaked since the day it was filled.

arnavasthana.com/projects/reef-60u/



FRC Team 2489 Competition Robot

Problem Build a fast coral-scoring FIRST Robotics robot on a minimal budget with a very small team.

What I did Designed the A-frame reinforcements, intake funnel, belly pan, IR game-piece sensor, and electronics guards; co-redesigned the elevator drive, replacing a skipping chain with fixed gears; led fabrication.

Result Gear drive ended the failures and let us run the elevator motor at 4.5× the output, taking us from about 1 coral per match to 13–20. 5th of 48 teams at the 2025 Contra Costa Regional.

arnavasthana.com/projects/frc-2489/



2016 Audi S4 (B8.5) suspension work

Problem Lower my Audi S4 for looks and handling on a $350 budget, working on the side of the street.

What I did Installed H&R lowering springs (1.5 in drop) and 15 mm wheel spacers myself, and set a DL501 transmission maintenance schedule.

Result Noticeably less body sway and more confident cornering, all under budget.

arnavasthana.com/projects/audi-s4-suspension/

Full project write-ups, CAD, and 3D models at **arnavasthana.com**