Chianli Hang

Mechanical Engineer

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Skills

Expertise		CAD, CAM, FEA, Manufacturing, Software Development, PCB Design, Business Development
Tools	**[Fluent]**	SOLIDWORKS, Fusion360, CNC Machining, VCarve Pro, Mach3, 3D Printing, Scrum, Typescript, Javascript, Keyshot
	[Proficient]	Rust, C, C++, Python, Matlab, SQL, Ansys, EAGLE, Google Cloud
Soft Skills		Leadership, Public Speaking, Project Management, Agile Methodologies

Recent Relevant Experience

Mechanical Design, Manufacturing, Co-founder - THE CNC COMPANY — Sep 2022 – Mar 2021

* Prototyped desktop CNC mill "Machinist" with 0.001" precision metal-cutting capabilities.
  ~ Project managed design of machine, creating a custom Agile-based project management system tailored for my team to align goals, hit deadlines, and increase productivity.
  ~ Modeled machine with SOLIDWORKS across 2 iterations with special emphasis on creating a unique frame for space-efficiency and simplicity.
  ~ Calculated lifespan of linear rails considering environmental factors using given component data to determine plausibility of designs.
  ~ Quality controlled final machine design in preparation for component purchase.
* Prototyped 4x6 ft. CNC router "Carpenter" with 0.002" precision.
  ~ Modeled machine with SOLIDWORKS while making strategic decisions to keep machine under $5000 market price.
  ~ Manufactured custom components with CNC mill, allowing for quick and precise prototyping.
  ~ Conducted initial assembly of entire machine and electrical components, bringing CAD models to life as a working machine.
  ~ Tested machine, resolving bugs with racking, jamming, and electrical interference. Completed projects for clients using Carpenter as part of the testing process.

Aerobody Engineer - Rutgers Rocket Propulsion Lab — Jan 2022 – Dec 2018

* Built rocket to achieve L3 rocketry certification for RRPL teammate, allowing for purchase and flight of rockets using motors with a total impulse greater than 5120 N-s.
  ~ Assembled rocket aerobody according to design specifications.
  ~ Conducted launch-day logistics, performing necessary quality checks and GPS recovery post-flight.
* Built "Eagle II v4": a 2-stage 30K ft. apogee rocket, the highest flying student rocket on the East coast.
  ~ Manufactured and assembled aerobody, following design specifications and performing quality control to ensure proper flight.
  ~ Designed flight camera system hardware and electrical systems with SOLIDWORKS, realizing the design with laser cutter and soldering to ensure smooth flight and footage
* Built "Project Supersonic": a single-stage rocket designed to break the sound barrier.
  ~ Optimized, manufactured, and assembled rocket aerobody to reach Mach 1.35 max speed.
  ~ Created recovery system involving parachute and delayed detonation charge for safe descent.
  ~ Designed, soldered, and tested telemetry system with microcontroller, barometric pressure sensor, and camera to fit into rocket's unique body tube and collect flight data.
* Mentored 20+ students into proficiency at SOLIDWORKS and more to understand rocket principles.

Projects

* Currently developing Mischif.io with SvelteKit, a platform to create or join amateur esports leagues.
* Repaired 2011 Subaru Outback to working condition. Replaced brake lines, valve cover, brake calipers + rotors, and engine oil.
* Engineered electrical systems of "Soccer Ball That Begs For Mercy When You Kick It" with Arduino, pressure sensors, and speakers.
* Used SOLIDWORKS to create 3D printed wallet for personal use.
* Designed with SOLIDWORKS and 3D printed face shields for medical staff during COVID.

References

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