

DHRUV SAINI

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EXPERIENCE

A Sustainable Future

CEO | 📅 Oct 2023 - Present

- Built and scaled the **PCM**, an AI-powered mobile app predicting paper use, to **30,000 students** nationwide in over 150 schools
- Trained a symbolic regression model with **PySR** to predict paper consumption based on school demographics
- Leading a **team of 20** to develop a nonprofit website and iterating on AI model, now helping save 1.7M sheets of paper per year
- Received **\$30k** in grants supporting sustainability impact

West Virginia University: SG-REAL Lab

GIS/Software Research Intern | 📅 Jul 2025 - Present

- Created a 3D modeling and flood segmentation pipeline on any power grid to determine which nodes need most investment

Dimension

Software Engineer Intern | 📅 Jun 2025 - Sept 2025

- Implemented webhooks to allow external companies to integrate with the enterprise collaboration platform
- Led the process to allow Stripe, Vercel, Github, and many other hosted bots in channels
- Revamped and modernized the UI, completing several refactors that culminated in a **70%** reduction of load time

University of Washington

Quantum Technical Writing Intern | 📅 Aug 2024 - Sept 2024

- Worked with Prof. Anantram to develop an editing workflow for his book *Quantum Mechanics for Scientists and Engineers*
- Used Python and React to automatically compare textbook versions and allow students to easily select the best version of any paragraph
- Accelerated editing time by **15x**

PROJECTS

CAD-bench: Benchmarking Language Models on Functional CAD Generation

- Built a benchmark for CAD generation that evaluates whether parts satisfy functional requirements, not just renderability or visual similarity
- Executed rigid-body simulations for complex mechanisms such as gearboxes to verify that generated CAD parts function as intended
- Accepted to the ICML AIWILD and FAGEN workshops; currently under review at NeurIPS, with code available [here](#) and paper available [here](#)

EDA Bench: An Execution-Based Benchmark for Language Model Agents on Functional PCB Construction

- Built a benchmark for PCB generation that evaluates electrical behavior, not just whether generated boards build successfully
- Integrated KiCad, routed-connectivity extraction, ERC/DRC checks, ngspice simulation, and external I/O specifications to verify circuit functionality
- Accepted to the ICML FAGEN workshop; currently under review at NeurIPS, with code available [here](#) and paper available [here](#)

ThinkSwitch: Iterative LoRA training and Weight Interpolation for Low-Compute Improvement on Specific-Purpose Reasoning Tasks

- Applied weight interpolation and LoRA to iterative distillation and amplification to greatly improve Qwen3-4B AIME score with only \$3 in compute
- Awarded 1st place at the Washington State Science and Engineering Fair, preprint available [here](#)

Muon Browser | *Typescript, Electron*

- Created a web browser that allows the user to open and browse pages and notes on an infinite canvas
- Available to download and use [here](#)

High-Altitude Balloon Payload (NASA Space Grant Consortium HAB Camp) | *Python, Data Analysis*

- Designed and built a payload for a high-altitude balloon flight to near-space altitude
- Instrumented the payload to measure and record altitude, pressure, temperature, humidity, audio, video, and a feed of a live cricket
- Wrote Python notebooks to clean, visualize, and analyze the recorded data and summarize results, presenting at a symposium

AWARDS AND HONORS

National Science Bowl

Team Captain | 📅 2021-Present

- Founded Bellevue High School's first science bowl team, winning 1st place at the nationwide virtual competition
- Won a fully-funded trip to Washington D.C. for the National Finals

Olympiad Awards

Various | 📅 2024-Present

- USACO Platinum Rank
- USAAIO National Finalist, Bronze Medal

ARC - The American Rocketry Challenge

Team Captain | 📅 2025

- Captained a team of five to build a model rocket following specific criteria, qualified for National Finals twice

EDUCATION

Bellevue High School

- 36 ACT, 100+ hours of community service, DECA ICDC finalist
- President of Programming Club, coach at Tyee MS and Odle MS programming clubs