

DESMOND MEHTA

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EDUCATION

Yale University

B.S.+M.S., Computer Science

- Relevant coursework: Discrete Math, Systems Programming, Compilers, VLSI, Trustworthy Deep Learning

New Haven, CT

Sep 2024 — May 2028

Cold Spring Harbor High School

4.22 GPA, 1570 SAT

- Relevant coursework: Linear Algebra, Multivariable Calculus, Physics C, 12× AP 5's

Cold Spring Harbor, NY

Sep 2020 — Jun 2024

Columbia University Science Honors Program

Weekend coursework in Relativity, Quantum Computing, and Materials Science

New York, NY

Sep 2022 — May 2024

WORK

Head of Platform at Sea12 | *Go, React, Python, Docker, Kubernetes, GCP, Vercel*

Built and deployed our AI automation platform Led team of 5 interns

New York, NY

Apr '25 — Aug '25

RESEARCH

Asynchronous VLSI & Architecture Group | *C++, ACT*

Designing silicon modules for inter-chip communication

Yale University

Jan 2025 — Present

Bioelectronics Lab | *C, C++, MATLAB*

Improved radio transmission protocol for rodent-implanted neural recording device

Feinstein Institutes for Medical Research

Jun 2024 — Aug 2024

Neural Acoustic Processing Lab | *MATLAB*

MATLAB signal processing methods for minimally-invasive human neural implants

Columbia Engineering

Jun 2023 — Aug 2023

Human Brain Mapping Lab | *Python, MATLAB*

Python signal processing to study the role of Sharp Wave-Ripples in memory

Feinstein Institutes for Medical Research

Jun 2022 — Mar 2023

ACTIVITIES

Yale Undergraduate Aerospace Association | *C, C++, Rust*

CubeSat Architecture and Security Board Lead and Project Liquid Team Member

New Haven, CT

Sep 2024 — Present

- Leading conversion of satellite codebase from C to C++ and planning of higher-level design paradigms
- Designing new STM32-based motherboard for liquid-fuel rocket; rewriting codebase in Rust

FIRST Robotics Competition | *Kotlin, Java, Fusion360, Onshape*

Build Captain, CAD Captain, Field Technician

Cold Spring Harbor, NY

Jan 2021 — Apr 2024

- Qualified for World Championship in 2023 and 2024
- Built autonomous targeting system in addition to leading design in 2024

Lemelson-MIT InvenTeam | *Python, Onshape*

Team Founder and Technical Lead

Cambridge, MA

May 2023 — Jun 2024

- Designed and fabricated a cost-effective, environmentally-friendly, and scalable solution for tick mitigation
- 1 of 8 teams selected nationally for \$7,500 grant, only team to win Microsoft Make What's Next grant

PROJECTS

Ring: Building an nRF52833-based smart ring featuring all indutry features + a mic, in a smaller size

Watch: Building an esp32s3-based smartwatch

- Features: OLED touchscreen, laser pointer, flashlight, motor, uSD, 2 mics, IMU, and SpO2+Heart Rate Sensor
- All drivers open-sourced and written in async Rust, as well as code and ECAD

Openwhisper: Open-source cross-platform Superwhisper clone, written with Tauri (Rust and Svelte)

NHRL: Designed robots for and competed in the NHRL Combat Robotics Competition in 2023 and 2024

Drone: Designed, built, and programmed an rp2040-based FPV drone using KiCAD, Onshape, and Rust

- Wrote control systems and multiple drivers from scratch; 100% Rust codebase

Congressional App Challenge: Built a React app to track water quality; 2023 Winner, District NY01

EXPERIENCE

Languages: C, Rust, C++, Python, MATLAB, Java, Kotlin, Go, React, Svelte, OCaml, CUDA, Verilog, Nix

Skills/Tools: Linux(Arch, Gentoo, NixOS), Firmware, PyTorch, ECAD, MCAD, 3D Printing, Vim, Zed, Poker