DESMOND MEHTA

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Education

Yale University — **New Haven, CT**
B.S.+M.S., Computer Science — Sep 2024 — May 2028
- Discrete Math, Compilers, VLSI, LLMs, Computer Architecture, Trustworthy Deep Learning

Cold Spring Harbor High School — **Cold Spring Harbor, NY**
4.22 GPA, 1570 SAT — Sep 2020 — Jun 2024
- Relevant coursework: Linear Algebra, Multivariable Calculus, Physics C, 12× AP 5′s

Columbia University Science Honors Program — **New York, NY**
Weekend coursework in Relativity, Quantum Computing, and Materials Science — Sep 2022 — May 2024

Work

Head of Platform at Sea12 | *Go, React, Python, Docker, Kubernetes, GCP, Vercel* — **New York, NY**
Built and deployed our AI automation platform Led team of 5 interns — Apr '25 — Aug '25

Research

Asynchronous VLSI & Architecture Group | *C++, ACT* — **Yale University**
Designing silicon modules for inter-chip communication — Jan 2025 — Present

Bioelectronics Lab | *C, C++, MATLAB* — **Feinstein Institutes for Medical Research**
Improved radio transmission protocol for rodent-implanted neural recording device — Jun 2024 — Aug 2024

Neural Acoustic Processing Lab | *MATLAB* — **Columbia Engineering**
MATLAB signal processing methods for minimally-invasive human neural implants — Jun 2023 — Aug 2023

Human Brain Mapping Lab | *Python, MATLAB* — **Feinstein Institutes for Medical Research**
Python signal processing to study the role of Sharp Wave–Ripples in memory — Jun 2022 — Mar 2023

Activities

Yale Undergraduate Aerospace Association | *C, C++, Rust* — **New Haven, CT**
CubeSat Architecture and Security Board Lead and Project Liquid Team Member — Sep 2024 — May 2025
- Led conversion of satellite codebase from C to C++ and planning of higher-level design paradigms

FIRST Robotics Competition | *Kotlin, Java, Fusion360, Onshape* — **Cold Spring Harbor, NY**
Build Captain, CAD Captain, Field Technician — Jan 2021 — Apr 2024
- Built autonomous targeting system and led design, qualified for World Championship in 2023 and 2024

Lemelson-MIT InvenTeam | *Python, Onshape* — **Cambridge, MA**
Team Founder and Technical Lead — 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, flashight, 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

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