

Jeremy Yun

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Links: [LinkedIn](#) | [GitHub](#) | [Google Scholar](#)

Languages: C, C++, Python, Verilog, Shell, MATLAB

Platforms: Cadence Virtuoso, Unix/Linux, Siemens EDA, Altium, Vivado, SPICE, Git, KiCad, Fusion 360

Skills: Mixed-signal IC, embedded systems, PCB, real-time signal & image processing, OOP

EDUCATION

University of Maryland, College Park

GPA: 3.934

B.S. Electrical Engineering

Expected May 2026

- President's Scholarship Recipient: Awarded \$50,000 based on academics, extracurricular activities, awards, honors, and an essay

EXPERIENCE

Founder & Lead Engineer | Wearable AVF Monitoring Patch | [Paper](#) |

February 2023 - Present

University of Maryland - Shah Lab

College Park, MD

- Developed a low-power, wireless, noninvasive, wearable device for real-time blood-flow monitoring in arteriovenous fistula (AVF) patients, using impedance plethysmography
- Designed a custom HW/SW stack, including dry electrode interface, analog front-ends, power management, I2C/SPI/BLE firmware, and real-time DSP
- Presented first-author conference paper at IEEE MWSCAS
- Filed provisional patent and partially licensed core IP to a commercial partner
- Led commercialization efforts through NSF I-Corps and MII Phase 0 grants; delivered spotlight pitch at National SBIR Innovation Summit to support company spinout formation

Spacecraft Power Electronics Co-op

June 2024 - May 2025

Johns Hopkins Applied Physics Lab (JHU APL)

Laurel, MD

- Developed ground stations equipment for NASA's Dragonfly rotorcraft mission to Titan
- Designed a comprehensive test rack to emulate Dragonfly's power system to test the main battery; capable of charge & discharge testing, cell balancing, high-frequency cell voltage and temperature monitoring, and mixed signal safety logic
- Designed EMI injection hardware and custom magnetics for battery balancer testing
- Supported rad-hard FET analysis for NASA's Europa Clipper mission

Spacecraft Systems Software Intern

May 2023 - August 2023

US Naval Research Lab (NRL)

Washington D.C.

- Worked an early-stage program involving a spacecraft with a camera under a Secret clearance
- Packaged full stack camera control desktop GUI using the Qt framework in Python and C
- Developed computer vision and image processing packages for scene sim, signal detection, and tracking

BioMEMS Researcher | [Paper](#) |

May 2021 - August 2021

UC Irvine - BioMiNT Lab

Irvine, CA

- Co-authored journal paper in *Advanced Science* on a novel intracellular delivery microfluidic platform
- Designed solution for electrode air pocket instability and modeled piezoelectric transducer heating trends

LEADERSHIP

Teaching Assistant

August 2023 - January 2024

ECE Department - University of Maryland

- Gave substitute lectures to 75 student class to teach undergraduates C programming
- Led twice-a-week recitations and office hours
- Personally developed teaching content, demos, HW + project rubrics, and exams

UMD Juggling Club President

August 2024 - Present

- Leading exec meetings, working with sponsors, organizing an annual juggling convention for 200+ people

PROJECTS

Neuromorphic CMOS Spike Encoder and Spiking Neural Network Chip | [Report](#) |

2024

- Brain-inspired ASIC for real-time blink classification from EEG to assess cognitive states
- Mixed-signal IC design in 1.8 V SkyWater 130 nm CMOS for noninvasive EEG acquisition, on-chip analog conditioning, event-based delta modulation spike encoding, and real-time SNN classification
- Full-chip layout & verification in Cadence Design Suite, achieving low-power operation and high channel throughput ideal for wearable monitoring.

RELEVANT COURSEWORK

- Advanced CMOS Design, Engineering Probability, Electromagnetics, Device Physics, Signals and Systems Theory, Analog Circuits, Digital Circuits & Systems, Linear Algebra, Differential Equations, Vector Calculus