Jeremy Yun

San Mateo, CA | (650) 448-9925 | jeremy.yun@outlook.com | https://jermyeworm.github.io/

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, spacecraft

EDUCATION

University of Maryland, College Park **GPA: 3.94**
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

Co-Founder & Lead Engineer | Wearable Vascular Monitoring Patch | Paper | **February 2023 - Present**
University of Maryland - Shah Lab College Park, MD

- Developed a noninvasive, low-power, wireless, wearable medical device for real-time blood-flow monitoring to address unmet clinical need in dialysis patient management
- Designed a custom HW/SW stack, including patch form-factor, sensor front-ends, power management, embedded firmware, real-time DSP, patient app interface, and physician alert ecosystem; verified through in–vivo patient studies
- Presented first-author conference paper at IEEE MWSCAS
- Led commercialization efforts through NSF I-Corps and MII Phase 1 grants; delivered spotlight pitch at National SBIR Innovation Summit to support company spinout formation
- Filed provisional patent and achieved an IP licensing agreement with a commercial partner

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 battery tester rack to emulate Dragonfly's power system through cruise stage, EDL, and Titan operations; capable of charge & discharge testing, cell balancing, high-frequency cell voltage and temperature monitoring, mixed signal safety logic, and future-proofed for other missions
- 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 SoC for real-time EEG classification 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, achieving 100uW operation and high channel throughput

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