Elijah Retzlaff

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Education

- **Columbia University** — New York, NY
  B.A. in Computer Science — 2023 – 2025
  - Columbia Space Initiative (CSI), Columbia Hiking Club
- **Tufts University School of Engineering** — Medford, MA
  B.S.E. in Biomedical Engineering and Biotechnology (68/120 Credits) — 2019 – 2021
  - Tufts Synthetic Biology Club; Dean's List; 3.54/4.00 GPA; ACT 35

Experience

- **Innovations Health Devices** — Citrus Heights, CA
  Product Manager — Feb. 2021 – Aug. 2022
  - **Led Product R&D of Kinoped Medical Robot (Visual Link | Google Drive Link)**: Recruited and trained team of 10 engineers and established a culture of efficiency, attention to detail, and open communication, leading to more R&D progress in 1 year than in the previous 7 years combined.
  - **Managed Team and Adapted Project Plans as Needed**: Led team through 4 product road-maps, 12 development sprints, 14 monthly budgets, and 4 iterations of custom PCB hardware and embedded RTOS software and 3 versions of integrated system software.
    This kept the team's morale high during budget cuts, kept CEO informed and confident of progress, and ensured both parties were clear on direction and able to proactively address problems.
  - **Helped Build Fully Functional Prototype in 10 Months**: Planned and coordinated team sub-projects and integrated them into a cohesive whole through a modular system architecture, focused discussions on system interactions, and insistence on high standards.
    This encouraged individual deep dives into problems without fear of repercussions, creation of solutions built on long-term goals, regular testable and presentable progress, and minimizing team conflict.
  - **Developed Corporate Relationships**: Secured pre-release access to Robotec.AI R2FU ROS to Unity communications software and developed advisory relationship with Kollabra Consulting CEO through direct outreach and development of strategic relationships, allowing for large leaps in technical progress.
  - **Pursued Series A Fundraising**: Led preliminary outreach efforts and created fundraising materials for planned Series A through technical presentations, product demonstrations, and networking events
    This resulted in 40+ contacts, 15+ follow-up meetings, and numerous discussions with potential investors.

  ***Tools**: Azure DevOps, MS Project, ROS1/2, Azure PostgreSQL, UnityXR, Xsens Mocap, Qt, Solidworks, Fusion360, Power and Metal Fab Tools, Soldering and Wiring Tools, 3D Printing, Lean Startup Principles*

  Biomedical Engineering Intern — May 2020 - Sep. 2020
  - **Built Prototype Robotic Control Software**: Designed and programmed (C++ and Python) a robotic simulation in Gazebo and a ROS1 controller based on keyboard input to act as a starting point for the control system of a new medical device.
  - **Contributed to Machine Designs**: Suggested design improvements for medical devices in development through a 20-page technical write-up on improving mechanical advantage and efficiency.

Skills and Interests

- **Skills**: C, C++, Python 3, Project Management, Relationship Building, Fabrication (Wood, Welding, 3D Printing)
- **Interests**: Reading, Human Connection, String Theory, The Wire, AI, Quantum Compute, Cosmology, Music