

Alexander Rovalino

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OBJECTIVE

Early-career engineer with multidisciplinary expertise and background in medical device development and biotechnology manufacturing seeking opportunities to solve difficult problems and drive positive impact.

EDUCATION

Johns Hopkins University, Baltimore, MD

May 2023

B. S. Biomedical Engineering (Medical Device concentration); Entrepreneurship and Management minor

- Cumulative GPA: 3.89/4.00
- Relevant Coursework: Mechatronics, Effective and Economic Design of Biomedical Instrumentation (EEDBI), Build an Imager, Computational Cardiology, Mastering Electronics

PROFESSIONAL EXPERIENCE

Aquapitas, Glen Ridge, NJ

June 2023 – Present

Co-Founder

- Led a team of 5 in developing hardware and software for pipe mapping and condition assessment
- Implemented firmware for ESP32S3 and nRF52840 microprocessor-based systems using C++
- Designed enclosures using Solidworks then rapidly prototyped and tested on pipe network testbeds
- Developed a customized GUI for data acquisition and processing using Python and Tkinter

Illumina, San Diego, CA

May 2022 – August 2022

Reliability Engineer

- Studied and documented manufacturing equipment using reliability techniques (FMEA, FTA)
- Introduced new data-based processes for manufacturing equipment lifecycle management
- Designed an IoT micropipette stand using Solidworks and rapidly prototyped it using a 3D-printer
- Built a dashboard to improve equipment management decision making using Tableau

ACADEMIC PROJECTS

Multidisciplinary Engineering Design Team, JHU

September 2022 – May 2023

- Researched femoral rotational osteotomies and interviewed leading orthopedic surgeons
- Designed a solution to fix postoperative rotational error from 15° to 1° using Solidworks
- Prototyped and tested our solution in realistic femoral test beds and Depuy Synthes IM nail

EEDBI, JHU

September 2022 – December 2022

- Collaborated with class of 20 students to build an effective and economical fluorescent microscope
- Worked on software subteam of 4 to design the microscope GUI using Figma, Python, and Tkinter
- Successfully integrated all subsystems to demonstrate low-cost functional fluorescent microscope

Biomedical Engineering Design Team, JHU

November 2019 – September 2020

- Designed a hearing aid housing using Fusion 360 and rapidly prototyped it using a 3D-printer
- Tested an audio amplification circuit using LTSpice and assembled it on a breadboard
- Developed validation and verification plans for technical specification of the prototype

AWARDS

- JHU Clark Scholar – Scholarship focused on engineering, entrepreneurship, and community service
- Fuel Accelerator 2023 Cohort Award – Startup accelerator demo day pitch competition