

Ian Ross Richardson

New Haven, CT | Boston, MA | (617) 751-9078 | ian.richardson@yale.edu | **Engineering Portfolio:** ianrichardson.me

SUMMARY: Senior in Electrical Engineering interested in aerospace, medical devices, and robotics

EDUCATION

Yale University, New Haven, CT Expected Graduation 2024

BS in Electrical Engineering (ABET), GPA: 3.94 (STEM), 3.84 (Overall)

Select Courses: Circuits & Systems (A), Mechatronics (A), Adv. Microcontrollers (A), Computer Architecture (A), Data Structures & Algorithms (A), Probability & Statistics w/ Computation (A), Signal Processing (A), E&M for Physics Maj.

The Roxbury Latin School, West Roxbury, MA Graduated 2020

GPA: 4.0 (unweighted) / 1570 SAT

Awards: Summa Cum Laude, National Merit Scholar, AP Scholar with Distinction, Spanish Language Prize, Music Prize

WORK EXPERIENCE

SpaceX, *Engineering Intern - Starlink New Product Electronics*, Los Angeles, CA Summer 2023

- Designed, validated, and constructed new electronic technologies for the Starlink “User Terminal” (dish + wifi router)
- Independently managed two projects – from concept, through design, fabrication, validation, and documented release
- Collaborated directly with senior engineers to support rapidly developing technical challenges the team faced
- Received top scores in performance evaluation & return offer for full-time employment

Proteowise inc., *R&D Engineer*, New Haven, CT January 2021 – August 2022

- Offered promotion to Senior Engineer after seven months as full-time intern during Spring ‘21 gap term & Summer
- Supported my contributions part-time during sophomore & junior year, returned as employee Summer ‘22
- Designed, built, and iterated on electrical, mechanical, and fluidic prototypes for a novel automated proteomic assay, bringing product from benchtop proof-of-concept to functional engineering prototype
- Conducted controlled validation and exploratory experiments using self-built apparatuses. Presented quantitative results with statistical analysis directly to CTO to inform reliable design choices to be included in final product
- Communicated design to manufacturing partners, resulting in successful construction of alpha production unit
- Trained new engineers and helped foster collaborative team environment as team grew from 5 to 15

The Aldridge Lab at Tufts Medical Center, *Research Assistant*, Boston, MA Summers 2018, 2019

- Programmed novel machine learning approach to determination of method of action of treatments for tuberculosis
- Co-author on publication: <https://www.pnas.org/content/117/31/18744>

SKILLS

- Circuit design & layout (Eagle, Xpediton), board assembly (thru/smd), testing (oscilloscopes, VNA), modification
 - Integration with microcontrollers and single board computers (Arduino, RPi). Basic FPGA design (Verilog)
- Programming: fluent in Java, Python, C, MATLAB, R, JS/HTML, quick to learn new languages
- Mechanical Design & Manufacturing
 - Complex part and assembly design using SolidWorks. Validation using motion study
 - Rapid production of functional prototypes at all levels of design maturity
 - Integration with sensors (analog & digital) and electronic + software control
 - Laser Cutting (with CorelDraw, SolidWorks), 3D Printing (FDM, SLA), opto-mechanical assemblies (THORlabs + custom parts), fluidics (valves, pumps, tubing), precise work with wood, metal, and plastics
- Amateur Radio operator (General Class). Familiar with operation and design of wireless/RF hardware.
- Strong and fluid presenter for both technical and non-technical audiences

LEADERSHIP EXPERIENCE

Roxbury Latin Robotics Team *President, Founding Member* 2016-2020