

ALEJANDRO COLINA-VALERI

Electrical Engineer student seeking Spring 2022 full time job as a signal & signal processing engineer



EDUCATION

2021–
Current

Tufts University

M.S. Electrical Engineering

Medford, MA

2017–
2021

Undergraduate University

B.S. Electrical Engineering

Medford, MA



RESEARCH EXPERIENCE

2021–
Current

Graduate Research Assistant

Tufts University

Medford, MA

- Develop CNN algorithm using thermal images to detect fires, obstructions, staircases that aid firefighters on missions
- Create Distance Sampling algorithm using DL to determine height of Chimpanzees given 2 laser pointers.

2019 –
2020

Undergraduate Research Assistant

Tufts University

Medford, MA

- Modeled capacitors and transistors from DES gel to create a wearable pressure, shear, and light display sensor.

Prototyped a Smart-Insole for adults that records data and warns their users if they are in danger of falling.



CLASS PROJECTS

2020 –
2021

Senior Design: Autonomous Delivery Package Drone

Tufts University

Medford, MA

- Integrated PTAM autonomous mapping system to drone through ROS programming.
- Built drones leg support and payload mechanism using Fusion 360 CAD modeling software & Raspberry Pi Zero.

2019 –
2020

Pulse Oximeter Sensor

Tufts University

Medford, MA

- Designed active bandpass filter to capture low frequency pulse, remove noise, and amplify signal pulse by 1000.
- Fabricated a sensor with an infrared LED and photo transistor to reproduce the heartbeat of a patient.
- Built feedback control system with MOSFET & Zener Diode to make sensor usable to various finger sizes.



CONTACT INFO



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<https://github.com/acolin02/>



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SKILLS

Getting experienced in
signal/image processing

Passionate about **computer vision
& detection** using deep neural
networks

Interested in **leadership** and
community building

Will write production-level
MATLAB/Python once in the job
market

Wanted to get experience with
Machine Learning on cloud
platforms: AWS, Azure, GCP

Want to learn to code in **solidity**

Last updated on 2021-12-02.



LEADERSHIP



Institute of Electrical and Electronics Engineers (IEEE) | President

- Manage a team of six people to design, organize, and execute technical, professional, and social events for forty IEEE members of the ECE and CS community
- Instructor for workshops on: machine learning, RF antenna, wearables, embedded security, and soldering

📍 Medford, MA

2017 – Present