

Jack Champagne

(781) 588-3459 | jrchampagne@umass.edu | [linkedin.com/in/jack-champagne-5760a7185](https://www.linkedin.com/in/jack-champagne-5760a7185) | github.com/jack-champagne

EXPERIENCE

Mathematics Undergraduate Researcher

Summer 2021

(Virtual) Undergraduate Research at University of Massachusetts Amherst

Amherst, MA

- Researched with Professor Wei Zhu on properties and uses of group equivariant neural networks.
- Created group equivariant convolutional neural network models for image classification that performed significantly better than comparable models without added structure.
- Presented findings at Conference *UConn. Markov Chains* and created report on research for the department.

Makerspace Staff

10/2019 – Present

University of Massachusetts Makerspace

Amherst, MA

- Employ knowledge of shop protocols and organization to create a safe and useful shop environment.
- Assist students and Makerspace across shop/manufacturing, technology, and computing projects.
- Host small to medium sized workshops for other student interested in topics such as computers, embedded electronics, and safe use of tools and shop equipment.

Software Engineer

10/2018 – Present

AirCycler

Marshfield, MA

- Leading development on ventilation system simulation software to provide software and hardware testing suite for new products with predictive algorithm based on intended product behavior.
- Overhauled an embedded drive-on beach access tracking system for the Duxbury Beach Reservation.

EDUCATION

University of Massachusetts Amherst

2019 – Present

B.S. Computer Science

Amherst, MA

B.S. Mathematics (Statistics and Data Science, Mathematical Computing)

- Expected Graduation: May 2023
- Cumulative GPA: 4.00/4.00

SKILLS AND PROJECTS

Skills

- Fluent in Python, Pytorch, C/C++, Java, C#, Matlab, R, LaTeX, Jamstack
- Statistical analysis, regressions, machine learning models, and algorithm design
- Proficient in version control, software development, and systems design
- Experienced with 3D printing, CNC manufacturing, embedded systems
- Seasoned fabricator, shop coordinator, and “maker”

Projects

- Coding & Electronics projects: github.com/jack-champagne
- Personal Website, mathematics blog: jackchampagne.com/blog
- Engineering & Robotics: github.com/duxburyrobotics/frc-2019, github.com/jack-champagne

HONORS AND HOBBIES

Honors and Awards: Deans List (All Semesters), Eagle Scout (Boy Scouts of America), Churchill Scholarship of the Partridge Fund (Duxbury MA)

Hobbies and Activities:

- William Lowell Putnam Mathematical Competition Participant 2021
- Drone Pilot, awaiting exam for part 107 certification
- FIRST Robotics Team 4908: Lead Programmer, electrical/control system engineer, robot driver, 2014 - 2019
- USSA NHARA Competitive Ski Racer, 2012 - 2018
- Student Pilot (Working towards Sport Pilot Certification)