

Roger Burtonpatel

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EDUCATION

Tufts University • Medford, MA

Graduated May 2024

BS in Computer Science & BA in Music, Minor in Portuguese

GPA: 4.0 Unweighted, Dean's List, Summa Cum Laude, Phi Beta Kappa,
Honor's Thesis Summa Cum Laude

WORK EXPERIENCE

Tufts University, Computer Science Department

Fall 2021 - Present

MathWorks

Summer 2023

Software Engineering Intern

- Designed, engineered, and tested Full-Stack Cloud App in Go, Vue.js, and AWS Technologies
- Built a comprehensive testing and deployment suite for future developers
- Directly communicated with and implemented features requested by higher-level admin

BastionZero

Summer 2022

Software Engineering Intern

- Built from scratch, tested, and deployed a logging microservice for the company's bastion in Go/Golang
- Transitioned company logging to MongoDB using Kubernetes pods
- Led successful effort to rethink log capture method to mitigate vulnerabilities

Instructor/Teaching Fellow/Teaching Assistant

- Primary Student Instructor, CS-4 (TA training course), Fall 2023 - Present
- Teaching Fellow/Recitation Leader, CS-105: Programming Languages, Spring 2023 - Present
- Teaching Assistant and lab leader, CS-15: Data Structures, Fall 2021 - Spring 2022

RESEARCH

Tufts University

Fall 2023 - Spring 2024

Senior Honor's Thesis, Computer Science, Advisor: Dr. Norman Ramsey

An Alternative to Pattern Matching, Inspired by Verse: A theoretical comparison of the Verse Calculus and languages with traditional pattern matching. Highest Honors. Publication in preparation.

Queen Mary University of London

Fall 2022

Research Assistant, Principal Investigator: Dr. Marcus Pearce

- Built Python tooling to answer research question, "Has pop music become more or less predictable since 1940?"
- Presented work, along with documentation and testing, to research committee
- Co-author on forthcoming paper on music predictability

Northeastern University, MIND Lab

Spring 2019 - Fall 2022

Research Assistant, Principal Investigator: Dr. Psyche Loui

- Analyzed neural imaging data using specialized tooling (FSL), and created tooling that pipelined its cleaning and analysis
- Wrote all code for a long-term research project on music and cognitive decline
- Automated multiple-month analysis pipeline with parallelism
- Co-author on presentations and presenter of ongoing work at IAMM and CNS in 2020
- Co-author on forthcoming paper on music's ability to slow cognitive decline

FELLOWSHIPS, GRANTS, & AWARDS

Luce Scholarship

Henry Luce Foundation

Phi Beta Kappa: Delta Tufts Chapter

The Phi Beta Kappa Society

James Schmolze Award for Excellence in Computer Science

Tufts University

Etta and Harry Winokur Award for Outstanding Achievement in Music

Tufts University

Laminan Prize in Romance Languages

Tufts University

Undergraduate Research Fund

Tufts University

SERVICE

- Tech Lead, JumboCode (Volunteer service programming club) **Fall 2023 - Present**
 - Leader of team building app for Boston Emerald Necklace Conservancy
- App developer for nonprofit language-exchange program Potencia **Spring 2023**
- Senior Mentor in Tufts Civic Studies Department **Fall 2023 - Present**
- Volunteer Librarian in Brazil through Global Citizen Year **Fall 2019 - Spring 2020**
- Volunteer Music Teacher with Brookline Music Program **Fall 2017 - Spring 2019**