

# Vedant Modi

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## EDUCATION

### Tufts University

Aug. 2022 – May 2026

GPA 3.82, BS Computer Science, BA Applied Mathematics

Somerville, MA

Relevant Coursework: Machine structure and Assembly programming, Data structures and algorithms

Mathematical proofs, Linear algebra

## EXPERIENCE

### Tufts JumboCode

September 2023 – Present

Developer

Somerville, MA

- Develop an app benefiting the Emerald Necklace Conservancy educating visitors on preservation
- Design a full-stack web application using React, MongoDB, Bun
- Practice team-based coding powered by Git and GitHub collaboration tools

### Tufts University, Department of Computer Science

May 2023 – Present

Course Assistant for Data Structures and Algorithms

Somerville, MA

- Host office hours aiding students in course projects and lecture topics
- Grade student assignments by studying submissions for functionality, testing, and course coding standards
- Contribute to a program that organizes course grading built as a Python CLI mimicking a SQL database

### Tufts University, Office of Academic Space Management

May 2023 – Present

Receptionist

Somerville, MA

- Service community via organizing mail, and analyzing building usage for largest academic buildings on campus

## RELEVANT PROJECTS

### JetLag | Python

Mar. 2023 – Present

- Construct a tool to aid sleep time changes when traveling between timezones during air travel, given flight details (e.g. airports, departure and arrival times)
- Craft using Python `tz` library and database of IATA-recognised airports to parse user input to calculations

### arith | C, Makefile, Bash

Oct. 2023

- Wrote a low-level, multi-phase JPEG-style compressor/decompressor with a partner
- Learned how to perform floating point arithmetic and pack/unpack binary data modularly

### vfl | C, Makefile, Bash

Oct. 2023

- Authored a program that reads/writes binary files representing flight itineraries
- Practiced optimizing file size by considering how many bits needed for each itinerary detail

### gerp | C++, Makefile, Bash

Apr. 2023 – May 2023

- Built a program with partner that searches for user-queried text from specified directory
- Designed with dictionary ADT, where dictionary stores words and filepath, and collaborated via Git

### zap | C++, Makefile, Bash

Apr. 2023

- Wrote a Huffman compressor/decompressor for text files and practiced using priority queue ADT and recursion

## SKILLS AND INTERESTS

**Programming Languages:** C/C++, Python, Assembly, JavaScript, TypeScript, HTML/CSS, R, SQL, LaTeX

**Frameworks and Environments:** React, React Native, Node.js, MongoDB, Bun

**Technical Topics:** Machine arithmetic, memory architecture, performance analytics, data structures and algorithms, compilers, object-oriented programming

**Developer Tools:** Visual Studio Code, Git, GitHub, GCC, Makefile, Figma, Linux/Unix, Bash, SSH, AutoHotkey

**APIs and Libraries:** LeafletJS, OpenStreetMap, Maptiler, Maplibre, Mapbox, ArcGIS, OpenSkyNetwork, pandas, tz

**Media:** Droneography, Photoshop, Lightroom, After Effects, Davinci Resolve Studio, Premiere Pro, InDesign, Wordpress

**Spoken Languages:** Proficiency in English, Hindi, Spanish, and French

**Travel:** Hiking mountains, traveling to novel destinations, searching for amazing flight deals

**Standards:** Expert in recalling IATA airport codes, ISO country codes, and timezones

**Woodworking:** Prowess using power tools like a saw (miter, table, band) and drill