Vedant Modi

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EDUCATION

Tufts University   Aug. 2022 – May 2026
GPA 3.85, BS Computer Science, BS Mathematics   *Somerville, MA*

Relevant Coursework: Algorithms, Network security, Machine structure, Assembly programming

Data structures, Multivariable calculus, Linear algebra

Carnegie Vanguard High School   Aug. 2018 – May 2022
GPA 4.70 / 4.00   *Houston, TX*

Significant Activities: International Thespian Society, National Honor Society, Interact

EXPERIENCE

Tufts University, Department of Computer Science   May 2023 – Present
Course Assistant for Data Structures   *Somerville, MA*
- Host office hours aiding students in course assignments and explaining lecture topics
- Deliver comprehensive lectures about topics and reinforce concepts via coding excercises for weekly 30+ student lab
- Grade student assignments by studying submissions for functionality, testing, and course coding standards
- Contribute to course infrastructure—autograding software, unit tests, organizing TA grading, and project solutions

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, 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

Texas Heart Institute   May 2021 – Aug 2021
Visual Communications Intern   *Houston, TX*
- Designed graphics and created animations representing cardiological research for publicity
- Interviewed for animation work by the *Houston Chronicle*

Carnegie Theatre Company   Aug. 2018 – May 2022
Webmaster, Media Designer   *Houston, TX*
- Maintained website, social media, ticket sales, and production marketing graphics.
- Designed live projections, edited videos, and rigged lights for productions.
- Recognized by the International Thespian Society for work on theatrical marketing.

RELEVANT PROJECTS

World Clock | *JavaScript, HTML, CSS*   Aug. 2023
- Created a web application showing the time of chosen cities, with a helpful interactive map to aid in visualization
- Designed using Maptiler and OpenStreetMap for map, and modeled UI with Figma
- Published application to personal website with custom autocomplete search bar and tracked development with Git

JetLag | *Python*   Mar. 2023 – Present
- Construct a REMOVE THIS NOW tool to aid sleeptime 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

GAMING, WEBDEV

IATA Guesser | *JavaScript, HTML, CSS*   Jul. 2023

- Memory game generating random IATA airport codes for the user to recall
- Used Toastr for popups reflecting answer and created a custom autocomplete search box

DATA SCIENCE

IATA Country Sorter | *Python*   Jul. 2023
- Invented a sorting script that maps inputted IATA airport codes into an output file for their country.
- Used for searching for flights by country in ITA Matrix

MACHINE STRUCTURE

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

ALGOS

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