

# ARJUN VAIDYA

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## EDUCATION

### University of Maryland, College Park

Aug. 2021 – May 2025

*Bachelor of Science in Computer Science* | GPA: 4.0

**Relevant Coursework:** Data Structures, Algorithms, OOP, Programming Languages, Computer Systems, Database Design, Compilers, Data Science, Discrete Math, Calculus, Linear Algebra, Probability Theory, Statistics

## TECHNICAL SKILLS

**Languages:** Java, Python, JavaScript, TypeScript, SQL, C, HTML, CSS, OCaml, Ruby, PHP

**Frameworks & Technologies:** React, Next.js, Redux, MongoDB, Pandas, NumPy, Jest, JUnit

**Tools:** Git, Azure DevOps, SonarQube, Vercel, Linux

## EXPERIENCE

### Software Engineer Intern

June 2023 – Aug. 2023

*Dow Jones, OPIS*

*Rockville, MD*

- Enhanced user communication by developing a web page for release notes using **React**, **Redux**, **TypeScript**.
- Improved data presentation and user experience with intuitive grid views and themes.
- Increased test coverage by 50% using **Jest** and **SonarQube**.

### Teaching Assistant

Aug. 2022 – Present

*Department of Computer Science, UMD*

*College Park, MD*

- Led discussions for 30+ students in **Object Oriented Programming** using **Java**, and **Discrete Structures**.
- Responsible for assisting students with course material, hosting office hours (~600 students), supplementing instructional content, and grading assignments.

### Research Intern

June 2022 – Aug. 2022

*Institute for Systems Research, UMD*

*College Park, MD*

- Analyzed and simulated 500k instances of intruder-defender interactions using **Python**, **Pandas**, **Scikit-learn**, and **Numpy** for the Perimeter Defense Problem.
- Classified and selected optimal algorithms with 80% accuracy through Exploratory Data Analysis techniques.
- Co-authored** a paper published in the **2023 IEEE/RSJ International Conference**.

## PROJECTS

### Speechify | *Python, Flutter, Flask, OpenCV, PyTesseract*

- Awarded **People's Choice Hack** (out of 125 projects) at Bitcamp Hackathon.
- Collaborated with three teammates to develop an app for dyslexic users using **Flutter Text-to-Speech** and **Optical Character Recognition** to read text from photos.

### Bloom | *React, Next.js, MongoDB, Axios, Cheerio, Puppeteer, Nodemailer, Tailwind*

- Created a full-stack application to notify users about seat availability from UMD course web page.
- Implemented **web scraping** to extract course data and stored it in **MongoDB Atlas**.
- Scheduled hourly updates using **Cron Job** and automated email notifications using **Nodemailer**.

### Tango | *Python, SQL, CockroachDB, HTML, CSS, Bootstrap*

- Developed a full-stack platform to rank user compatibility based on music interests using **Spotify's API**.
- Built backend system for user data storage using **CockroachDB** and **SQL**.

### FIRE Research Program | *Python, OpenCV, NumPy, DJITelloPy*

- Collaborated with team members and Dr. Nitin Sanket to develop motion planning algorithms using drones.
- Applied computer vision techniques on video and image data for **object detection** using template matching.
- Presented research findings at the UMD FIRE Symposium in November 2022.