

Varun Ritesh Gandhi

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EDUCATION

University of Massachusetts Amherst

Bachelor of Science in Computer Science and Mathematics (GPA: 3.913)

2021 – Dec 2024

Distinctions: Dean's List Honors, Chancellor's Award Scholarship (\$56,000)

Coursework: Software Engineering, Data Structures, Algorithms, Machine Learning, Programming Methodologies, Operating Systems, Artificial Intelligence, Abstract Algebra, Computer Networks, Intro. Computer Organization and Architecture

SKILLS

Languages: Python, JavaScript, SQL, Java, C/C++, HTML, CSS, Rust, TypeScript, Bash

Frameworks and Libraries: React.js, Node.js, Flask, Bootstrap, Django, jQuery, Express.js, Mongoose, Pandas, NumPy

Cloud and Tools: AWS [EC2, EBS, S3, Lambda], Docker, Git, Rest API, MongoDB, MySQL, Unix/Linux, Agile, CI/CD, Terraform

Certifications: The Complete Web Development Bootcamp (Udemy), Machine Learning Specialization (Stanford/Coursera)

EXPERIENCE

Backend/Data Engineer Intern

[DXFactor](#)

May 2024 – Aug 2024

- Developed a comprehensive authentication and gym member administration system for a SaaS fitness application, enabling secure gym registration, cancellation, and user management using Python's **Django Rest Framework**.
- Implemented robust password reset functionality with secure token generation and email verification using **SendGrid API**.
- Implemented **JSON Web Tokens** for creating secure user **RESTful APIs** and leveraged **asynchronous operations** with **Django's** ASGI framework to improve system performance and reduce latency for end-users.
- Utilized **Django ORM** and created and optimized **SQL queries** to handle complex data relationships safeguarded against **SQL injection**, ensuring secure database operations and **reducing query execution time by up to 10%**.
- Developed an extensive **data warehousing** solution by automating **ETL pipeline** with **AWS Lambda**, transferring data from **MariaDB** and **PostgreSQL** to raw and curated layers in **AWS S3** using **mysql.connector** and **boto3** via **Python** scripts.

Software Engineer Intern

[Adani Group](#)

May 2023 – Aug 2023

- Automated identification of idle resources in Adani's Google cloud infrastructure by developing **python scripts** leveraging **Google cloud APIs**, achieving **cost reductions of 35%**. Architected a **MySQL DB** to store the data retrieved from the API calls.
- Spearheaded development of a full stack dashboard using **React.js** and **Django REST framework** to visualize and analyze the collected data, utilizing **Axios** for frontend API calls and **Django token authentication** for secure backend API authentication.
- **Created** and deployed MySQL and Django **containers** on a **virtual machine**, enabling communication via a **Docker** network.

PROJECTS

PunchTime – Duck Creek Tech. Employee Portal ([Link](#))

React.js, MongoDB, Node.js, Express.js, and Mongoose, Docker

- **Developed** a **time tracking platform** for **internal use of 1900+ employees** from ground up in an agile team of 9 developers under the guidance of a Sr. SWE at Duck Creek for academic credit as a part of the software engineering course at UMass.
- Constructed the client-side in **React.js**, implementing methods for large-scale UI components that consumed served **JSON**.
- Programmed server-side logic of portal using **Node.js, Express.js, and Mongoose**, and stored employee data in **MongoDB**.

UMassConnect – Social Media Website ([Link](#))

React.js, Redux, Node.js, Express.js, MongoDB, HTML/CSS, MUI

- **Developed** a **full stack CRUD application** for prospective **use of 9,000+ students**, providing a centralized platform for curating and delivering highly relevant content related to UMass students' academic pursuits, campus events, clubs, and interests.
- Guaranteed secure communication and access by integrating **RESTful APIs** authenticating **JWT tokens** sent on each API call.

Extended XV6 Operating System Kernel ([Link](#))

C, C++, X86 Assembly, Makefile, Unix/Linux, Rust

- **Contributed** to the **open-source** Unix based **XV6 OS kernel** by replacing the "Round Robin" process scheduler with the CFS scheduler, enhancing process prioritization and fairness aiming to reduce average process wait times by more than 25%.
- Concurrently, designing a course project for the Operating Systems course at UMass tasking hundreds of students with transitioning the XV6 OS kernel's process scheduler from "Round Robin" to the Multilevel Feedback Queue (MLFQ).