Vraj Rajpura

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EDUCATION

Master of Science - Information Management, *University of Washington* — 09.2024 – 05.2026, Seattle, USA
Software Engineering, Project Management, Data Science, Machine Learning, Product Management.

Bachelor of Technology - Computer Science and Engineering, GPA : 8.84/10, — 12.2020 – 05.2024, Surat, India
National Institute of Technology, Surat
Data Structures & Algorithms, Databases Management, Object-Oriented Programming/Design, Operating Systems, Computer Networking, Artificial Intelligence, Web Development.

WORK EXPERIENCE

Musafir.com, *Software Developer Intern* — 02.2024 – 06.2024, Dubai, UAE
- Enhanced expense tracking for clients & reduced processing times by 15% as a result of implementing client-specific requirements using **C#** and **.NET - MVC** architecture .
- Enabled 1500+ clients to monitor their trips and carbon emissions by **automating** a highly manual & repetitive **report-generation process**.

Extrius group, *Software Developer* — 01.2024 – 02.2024, Al Sharjah, UAE
- Developed **API routes** using **Flask (Python)** for the computation of customer rankings for a shopping app by enhancing requests and achieving response times under 50ms.
- Developed a secure, priority-based dashboard for retrieving health data from clinics for an insurance company using **HTML** (front-end), **Flask** (back-end), and **SQLite** (database design).

Emma Coach, *Developer and co-founder* — 01.2024 – 03.2024, Dubai, UAE
- Conceptualized an AI therapist completely on WhatsApp using **OpenAI's Assistants API**, **Replit hosting**, Flask and a multi-threaded architecture to enable 100+ simultaneous conversations and response times under 1.5 seconds.
- **Acquired 50+ customers** across three countries through a free trial, analyzed user behavior, and implemented user-requested features to enhance the product experience.

Barclays, *Software Intern (Business Analyst Level-4)* — 05.2023 – 07.2023, Pune, India
- Automated a critical component in the Markets Technology division and financial systems using **Java & Maven**, and **basic Kafka**, saving 7 hours of the team weekly.
- Utilized agile **scrum SDLC** methodologies to build software components for proprietary systems using tools such as Jira, Office 365 and other software project management tools.

SVNIT, Surat, *Training and Placements co-ordinator* — 09.2023 – 05.2024, Surat, India
- Analysing student data and job placement statistics for a targeted approach to new recruiters.
- Connected 130 students with recruiters from top MNCs such as Wells Fargo, Visa, Mastercard, etc...

Google Developer Students Clubs, *Community Manager* — 09.2022 – 04.2023, Surat, India
- Managed a core team of 20 batchmates and 150 juniors to host India's first-ever Shark Tank-themed hackathon.
- Supervised teams to build agile software-based products for ten organizations on a contract basis.

TWC, *Web Developer and Content Operation Executive* — 03.2021 – 07.2022, Surat, India
- Designed the website on WordPress, including APIs to automate emails for ticketing of events for over 100 participants while hosting multiple events.

Apli, *Digital Marketing Intern* — 12.2021 – 08.2022, Bengaluru, India
- In charge of handling the Instagram handle for Apli and generating traffic on the website and testing the website for various bugs.

RESEARCH AND PROJECTS

Key Approval Software, *University of Washington, HFS* — 11.2024 – 02.2025
- Automated the key tracking process for 50+ stakeholders, reducing administrative overhead by 30% by developing a fullstack WebApp using **Google Apps Script**, **JavaScript**, and HTML.
- Deployed a production-ready key request system, by streamlining approvals, issuances, and returns reducing error rates by almost 70%.

Bitcoin price relationship to public sentiment, *Quantitative research* — 06.2024 – 06.2024
- Analyzed Bitcoin price and public sentiment data over the past 365 days using quantitative finance techniques to calculate correlation.
- Performed sentiment analysis on all Bitcoin-related data to assign, positive, negative, and neutral sentiment to comments.

Gender/Racial Bias detection in LLMs for Real-estate, *Final project - Ethics in AI* — 09.2024 – 12.2024
- Conducted an in-depth analysis of how GPT-4o responded to 1000 prompts with varying gender & racial attributes using python & the OpenAI API.

- Designed & executed experiment followed by analyzing data to make inferences.

Hierarchical thoracic disease detection, *Bachelor's Final Year Project* ⧉   09.2023 – 12.2023
- Introduced a novel approach utilizing clinical taxonomies to accurately predict 14 lung diseases
- Developed three CNN-based classification models (CheXnet, reset and DenseNet) for chest Xrays at three levels and integrated them into a cohesive pipeline to give doctors a more detailed explanation for disease prediction.

A Statistical Approach to Identifying Biased Comments Online, *Research Assistantship*   03.2023 – 07.2023
- Assisted in data scraping and collection to train a Naive-Bayes classifier to identify discrimination against protected attributes online
- Researched ML fairness & safety while building & deploying advanced AI systems.

MBTI Personality Prediction using twitter, *Seminar Project* ⧉   09.2022 – 09.2022
- Built a personality predictor on the basis of the Myers Briggs Test Indicator with references from currently existing personality predictors using ML.

Rankings API ⧉   01.2024 – 01.2024
- Constructed an API endpoint and stress-tested its ability and performance to fetch data from 100,000 rows across multiple tables.
- Implemented advanced logic to compute rankings for a user providing a dynamic analytics webpage for the shopping app.

Healthcare project   01.2024 – 02.2024
- Tailored a healthcare project that allows insurance providers to directly fetch data from clinics and approve/reject them based on priority of cases with built in security measures like username, passwords and security keys in the API to prevent unauthorised access.

SWITZ, *Frontend for a website to sell Luxury Watches* ⧉   11.2021 – 12.2021
- Using HTML/CSS/JS, designed and developed 15+ pages.

Vertex   05.2022 – 06.2022
- Proposition for a system-wide change to bring together banks, partner companies, and students to make a robust system that benefits all three entities in terms of student loans and debt.

SOAP-(Son of a peach), *Profanity filter to replace swear words* ⧉   12.2021 – 12.2021
- Engineered a tool to replace curse words with funnier, similar-sounding words with a 90% accuracy while securing a spot in the top 50 teams in Dotslash 5.0 ⧉ .

Future of Shopping in the Metaverse, *Interactive collaborative space on hubs by mozilla* ⧉   08.2022 – 08.2022
- Fabricated a scene for collaborative 3D space to create a shopping experience in the metaverse using hubs by mozilla.

Music Library Database Analyst ⧉   04.2022 – 05.2022
- Led a team of 5 members to work on a music library to help suggest songs according to music genre and ratings, that are personalized to users.

Websites protoypes using Figma, *Low and High fidelity prototypes* ⧉   05.2021 – 12.2023
- Rendered prototypes for many client-based/ individual projects to test the website's UI/UX.

Rating and Review system for E-Commerce Website, *Northern Trust Hackathon* ⧉   10.2022 – 10.2022
- Devised and implemented a comprehensive Ratings and Review System using HTML, CSS, JavaScript, MongoDB, Express, and Node.js.

Alivean, *Object detection model*   07.2020 – Present
- Worked on a product which uses Tensorflow to help the visually impaired individuals identify various objects and relay the information through earphones.

Fintech   03.2021 – 05.2021
- Planned for a finance app, to manage finances, specifically for those who lack financial education or do not have the time to manage their finances.

Suppl-AI, *Exploring how AI is revolutionizing the Supply Chain & Logistics Industry*
- Conducted an extensive study & led a team of five students in exploring the technological boom in the Supply Chain industry due to the rise of AI.

SKILLS

Programming Languages and Development: — C,C#,C++,Python,Java, HTML5, CSS, JavaScript, Flask, .NET, API Designing.

Database Management & OSs: — MySQL, Oracle SQL, MongoDB(beginner),SQLite, RDBMS,UNIX, Linux, Windows, MacOS.

Technical Skills: — Strong CS and data fundamentals, critical thinking, problem-solving, full stack development, Object-Oriented Design, Microservices, Testing, Natural Language Processing, Debugging, JSON, REST API, Software development, frontend, backend, Database querying, Cloud computing, Postman, GenAI chatbots & prompt engineering.

Additional: — Figma, WordPress, Git and Github, Office-365, Jira, Bitbucket, SourceTree, CI/CD, Deployment.

AWARDS

Gold Medalist - Python Programming @Artificial Intelligence and Robotics conference, *Ministry of Education, UAE* ⬀

Winner Global Innovation Challenge, *Gems Education* ⬀
Presented Alivean at Singularity University's Global Summit 2019 in San Franciso, California.

Winner of SHOW N' TECH 2019, *The Assembly and in5* ⬀
Provided an elaborate solution for visually impaired people, to help ease their lifestyle using AI and ML.

EXTRA- CURRICULAR

Enthusiastic Film-maker
Directed and edited a movie, shortlisted for the Sharjah National Film Festival, based on depression, the cause of suicides and their prevention.

Video Editing head @Renesa [The Official Media and Publication House, SVNIT]
Manage a team of 5-10 video editors and designers to produce high-quality videos about the university and the Media house.

Graphic Designing and 3d Modelling
Multiple clubs in SVNIT

Avid drummer