

AYUSH RANJAN

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Technical Skills

Programming Languages and Frameworks: Java, Python, SQL, C, PyTorch, Spring Boot, Flask, JUnit, JDBC, React, Javascript, HTML, Hibernate, Keras, MySQL, PostgreSQL, DB2, MongoDB, Pandas, Numpy

Software Development Tools: Github, Docker, Kubernetes, Log4j, Jenkins, Papyrus, Jira, Azure, Eclipse, VsCode, Vim

Selected Coursework: Advanced Data Structure, Data Science, Analysis of Algorithms, Design and Implementation of Database Systems, Advanced Machine Learning Techniques, Operating System, Advanced Computer Network, Neural Computation

Awards and Certifications

UCSC Kaggle's Competition Winner(2023) Achieved first place in the final project competition of the Applied Machine Learning: Deep Learning course.

3rd Place at Innocircle 2022, Mercedes' Internal Innovation forum: Implemented **micro frontend architecture** to complement the existing process, enabling users to autonomously modify their vehicle network topology. This approach empowers network experts to review changes independently, eliminating previous dependencies. Resulting in significantly improved efficiency and user experience.

SQL Fundamentals by SoloLearn: A Program for Mastering **SQL Scripting, Database Querying, and Manipulation.**

Experience

University of California, Santa Cruz

Jan 2024 – Present

Teaching Assistant for **CSE-115A Introduction to Software Engineering**

Santa Cruz, CA

- Mentored five software engineering groups, nurturing an environment of agile methodologies and collaborative project design.

Capgemini Technology Services India Limited

Oct 2022 – Aug 2023

Associate Consultant

Mumbai, India

- **Role: Java Developer Client : Mercedes-Benz Research and Development India**
- Designed, implemented, and maintained Java features, employing design patterns while performing code reviews.
- **I headed the Data Model and Diagnostic Team**, under the supervision of the Project's Senior Architect.
- Restructured Export test cases via XML file import strategy and sorting, **cutting export testing time by 40 percent.**

Capgemini Technology Services India Limited

July 2021 – Sep 2022

Senior Analyst / Senior Software Engineer

Mumbai, India

- **Role: Java Developer Client : Mercedes-Benz Research and Development India**
- Conducted software analysis, programming, testing, and debugging within a project that utilized a **3-tier architecture.**
- Collaborated closely with the **data modeling** team to enhance the functionality and adaptability of XDIS (Cross-platform Data Information System), a critical tool for vehicle diagnostics and automatic driving scenarios in Mercedes.
- Dramatically optimized **XML** file migration time by an impressive **66.67 percentage.** Additionally, enhanced the tool's robustness by concurrently implementing indexing strategies for associated **IBM Db2** database tables.

Capgemini Technology Services India Limited

Jan 2021 – May 2021

Senior Analyst Intern / Senior Software Engineer Intern **Role: Java Full Stack Developer**

Pune, India

- **Led a team of 6 interns** in developing a Medical Portal using **Spring Boot** for the backend and **React** for the frontend. Seamlessly integrated frontend and backend via **Axios**. Utilized **JUnit** for backend and **Jasmine** for frontend testing.
- Developed a **REST API** to facilitate distinct user roles (Admin, Doctor, Patient) to streamline appointment booking, doctor profile viewing, and medical history management for patients, while enabling doctors to review medical histories.

Education

University of California, Santa Cruz - Master of Science in Computer Science -CGPA : 3.65/4

Sep 2023 – Present

Manipal University, Jaipur - BTech in Information Technology -CGPA : 8.03/10

July 2017 – May 2021

Selected Projects

Video to Mp3 Converter | *Flask, Docker, Kubernetes, RabbitMQ, MongoDB* [Github](#)

Dec 2023

- Developed a **microservices**-based system with four services, including an authentication gateway, authorization service, video upload service, and converter service. The gateway authenticates users via an authorization service, generating **JWT tokens** for valid users, enabling secure video uploads. Video-to-MP3 conversion was facilitated using the Python library "moviepy".
- Employed asynchronous communication using **RabbitMQ** queue, Utilized **Docker** for containerization, **Kubernetes** for orchestration, and **Minikube** for local development, ensuring consistent and scalable deployment across environments.

Sentiment Analysis using CNN | *Python, Pytorch, TorchText, Jupyter Notebook* [Github](#)

Jan 2020 – May 2020

- Implemented four convolutional layers (filter sizes 2-5) to capture diverse n-grams in text for sentiment analysis.
- Our final model provided us with a **test accuracy** (in percentage) of **87**, **validation accuracy** of **89**, and **training accuracy** of **88**, and this project earned me **A+ grade** in my **Minor Project.**

Facial Attendance System | *OpenCV, Python, Tkinter, gTTS, Playsound* [Github](#)

Aug 2019 - Nov 2019

- Utilizing **OpenCV**, the system captures image frames and employs **Haar features and Cascade Classifiers** to detect faces within them. Identified faces are then compared against a database for identification. Attendance records of recognized individuals, including date and time stamps, are logged, with the capability to retrieve historical data using names.
- The GUI, built with **Tkinter**, encompasses attendance features and admin query capabilities for login times. Integration of **Google Text-to-Speech** enhances user interaction with personalized welcome messages for recognized individuals.