
EDUCATION

Master of Science: Computer Science Sep 2021-May 2023
Rutgers University | New Brunswick, New Jersey GPA 3.917/4.0
Courses: Data Structures, Artificial Intelligence, Software Engineering, Machine Learning, Data Mining.
Graduate Teaching Assistant for Database Technology and Linux Concepts; mentored group of 100 students.

Bachelor of Engineering, Computer Engineering Aug 2017-Jun 2021
University of Mumbai | Mumbai, India CGPA 8.37/10
Courses: Algorithms, Object-Oriented Programming, Database Management, Web Technologies.

TECHNICAL SKILLS

- **Languages:** Python, PHP, Java, HTML, CSS, SQL, JavaScript, C, React.
- **Libraries/Frameworks:** TensorFlow, Pytorch, OpenCV, Flask, NumPy, Pandas, Gradio, NLTK, Sklearn.
- **Tools:** Git, Heroku, VS Code, Jupyter Notebook, Android Studio, Hadoop, AWS, MySQL.

PROFESSIONAL EXPERIENCE

Graduate Research Assistant | Rutgers RUCI lab [\[Demo\]](#) Jun 2022-Present

- Augmented MNIST dataset by 10% with 300 handwritten digits and 5000 Rotated and Zoomed images.
- Classified digits with an accuracy of 99.28% by building a CNN and fine-tuning model on aggregated data.
- Detected multiple digits in an image by applying convex hull and bounding box algorithm of OpenCV.
- Deployed digit prediction system on Hugging Face utilizing Gradio.

Machine Learning Intern | WINLAB, Rutgers University Jun 2022-Aug 2022

- Identified 5 users based on unique pill-taking action, leveraging speed and range data from a Radar sensor.
- Fetched JSON data from radar's API and converted collected data to multivariate time series data.
- Extracted features from data with TSFEL, deployed Bagging classifier to classify users with 80% accuracy.

Software Engineering Intern | Mahavir Industries Dec 2019-Jan 2020

- Built a user-friendly e-commerce website with React and MongoDB, increasing user interaction by 25%.
- Incorporated a virtual chatbot and a payment gateway using PayU API, increasing purchases by 33%.

Software Engineering Intern | Navlakhi May 2019-Nov 2019

- Led design and development of full stack for JEE/NEET software in a team of 5 interns with an aim of conducting online tests and evaluating students' performances using of PHP and JavaScript.
- Applied dynamic weight assessment algorithm to assess and adjusts difficulty level of questions.
- Found students' strengths and weaknesses with an accuracy of 80% by constant evaluation based on tests.

ACADEMIC PROJECTS

Food AI using Cross Modal Representation Learning [\[Repo\]](#)

- Explored Cross-Modal Learning Representation on Recipe-1M dataset by developing a food image recognition system to take an image as input and provide a recipe along with ingredients and vice versa.
- Optimized retrieval metrics by 32% with a multimodal representation on CCA and DCCA with Triplet Loss.
- Incorporated Vision Transformers, BERT, and cross-modal attention when learning shared representations to solve fine-grain representation and performed ablation studies to back design choices.

Automated Learning and Testing Platform [\[Repo\]](#)

- Created a Game-Based learning system employing HTML, CSS, JavaScript, PHP, MySQL and Flask with a team of 3 to provide a complete assessment of students utilizing Anti-Cheating Tools.
- Implemented and tested 18 major features including OCR, speech-to-text recognition, tab switching detection, OTP verification, QR code generation and Multiple question types.
- Automated the process of drafting tests by including question banks reducing teachers' workload by 60%.
- Authored and published a [paper](#) on Game-Based Pedagogy system in IJESE, October 2020.

Android app to execute SQL scripts on Cloud [\[Repo\]](#)

- Developed an android app to execute SQL scripts on two databases stored on Amazon RDS and redshift.
- Normalized 2 existing databases and pipelined them to an S3 bucket, then to Redshift and RDS.
- Established a connection between the application and AWS servers with flask for executing SQL scripts.

Library Management System [\[Repo\]](#)

- Built a web application leveraging HTML, JavaScript to reduce librarians manual work by 40%, allowing librarians to manage authors, books, users and issue books to users with ease, and hosted it on Heroku.
- Engineered 3 modules: front-end design, back-end database management, integration.