

## ABOUT

An enthusiastic Research Engineer at Singapore Management University specializing on AI and full-stack development. Currently developing AACHARYA.AI, a revolutionary platform for AI-powered education. I hold a Master's in Information Systems from NTU and a B.Tech in Computer Science from VIT. Skilled at developing scalable applications, deploying AI solutions, and managing cloud infrastructure. I previously worked as a Big Data Engineer at Accenture, optimizing and analyzing data pipelines.

## EXPERIENCE

### Singapore Management University

Singapore

*Research Engineer*

2024/09 - Present

- Developed responsive LMS frontend features with React (Vite), Radix UI, and Tailwind CSS and built scalable backend APIs with FastAPI.
- Designed and optimized PostgreSQL and MongoDB data models to facilitate structured educational content and user interactions.
- Implemented Retrieval Augmented Generation (RAG) pipelines using Qdrant as a vector database to improve contextual search and AI-driven content production.
- Applied reinforcement learning techniques to customize the learning courses of students and integrated generative AI to automatically create course materials and curate it.
- Deployed backend services with Docker, set up CI/CD pipelines for smooth, automated deployments and managed infrastructure on GCP.
- Dedicated to "Training Non-Expert Humans using AI," the AACHARYA.AI platform has been used for POCs and embraced by universities and enterprise clients.

### Accenture Solutions Private Limited

Bangalore, India

*Advanced Application Engineering Analyst*

2022/11 - 2023/08

- Trained in Apache Hadoop File System and learned to use different big data analytics tools like Apache Hive, Spark, Cassandra and more as a fresher.
- Designed, developed, and implemented end-to-end data pipelines using Hadoop ecosystem tools such as HDFS, Map-Reduce, Hive, and Pig.
- Successfully integrated data from various sources including structured and unstructured data, enabling efficient processing and analysis within the Hadoop cluster.
- Implemented ETL processes to move data from various sources to the data warehouse.
- Implemented real-time data processing solutions using tools like Apache Kafka.
- Documented processes, procedures, and best practices for Hadoop cluster management and data processing.

## INTERNSHIPS

### TalentKraft Pte Ltd

Singapore

*AI Project Development Intern*

2024/01 - 2024/03

- Conduct research and data gathering on relevant data for goal setting and performance review.
- Design and Develop Gen AI based solution to assist organisations in their Goal Setting and 360 Performance Review Process

### The Sparks Foundation

Vellore, India

*Graduate Rotational Internship Program (Remote)*

2021/02 - 2021/03

- Conducted thorough data analysis to identify patterns, trends, and anomalies in diverse datasets.
- Evaluated the performance of machine learning models using appropriate metrics and fine-tuned algorithms for optimal results.
- Implemented data preprocessing techniques to clean, normalize and transform raw data into suitable formats for machine learning models.

EDUCATION

**Nanyang Technological University**  
*Master of Science in Information Systems*

- CGPA : 4.80 / 5.00
- Completing in May, 2024
- Focusing on Data Science and Text Mining through my choice of coursework specialization.
- Courses: Text and Web Mining, Data Mining, Internet Programming, Research Methods for Data Analysis, Information Retrieval and Information Visualization

Singapore  
2023/08 - 2024/07

**Vellore Institute of Technology**  
*B.Tech Computer Science and Engineering*

- CGPA : 8.78 / 10.00
- Core Courses: Data Structures and Algorithms, Operating Systems, Database Management Systems, Computer Architecture
- Elective Courses: Web Mining, Statistical Data Analytics and Artificial Intelligence for Beginners

Vellore, India  
2018/06 - 2022/05

SKILLS

- **Programming Languages** - Python, Java, C, JavaScript
- **Web & Frontend Development** - HTML, CSS, Java Servlet, JSP, Radix UI, Tailwind CSS, React (Vite)
- **Backend & DevOps** - Docker, GCP, AWS, RESTful APIs, FastAPI, CI/CD Pipelines
- **Database Systems** - PostgreSQL, MongoDB, MySQL, Qdrant (Vector DB)
- **Artificial Intelligence** - RAG Pipelines, Generative AI, Machine Learning, Neural Networks, NLP, Reinforcement Learning
- **Big Data & Visualization** - Tableau, D3.js, Apache Spark, Apache Hive, Hadoop
- **Soft Skills** - Self-Motivated, Detail-Oriented, Problem-Solving

PROJECTS

**Aspect-Based Sentiment Analysis of LGBTQ Issues in Singapore**  
*Text Mining, Deep Learning, NLP, Tableau*

- Web Scrap data from online discussion platforms like Reddit and HardwareZone.
- Train and Evaluate a BERT based Transformer Model for Sentiment and Aspect Classification
- Analyze the Aspect based Sentiments with respect to Time using Visualizations in order to gain insights.

2024/01 - 2024/06

**Twitter Sentiment Analysis with MLP, CNN and BERT**  
*Text Mining, Deep Learning, NLP*

- Developed a machine learning model using Multilayer Perceptron (MLP), Convolutional Neural Network (CNN) and BERT for Twitter Sentiment Analysis.
- Implemented data preprocessing, model training and evaluation.
- Collaborated with team members to optimize model performance and accuracy.

2023/08 – 2023/11

**Deep Learning Model for Analyzing Water Quality, Level, and Flow of Cauvery River**  
*Deep Learning, Environmental Analysis*

- Developed a Deep Learning model to analyze water quality, level and flow of the Cauvery River in India.
- Implemented features to predict and monitor environmental parameters.
- Contributed to the understanding and assessment of water resources using advanced technology.

2021/11 – 2022/05

CERTIFICATIONS

- Certificate of Completion of Accenture Greenfield Training Program2023/01 - 2022/11
- Intro to TensorFlow for Artificial Intelligence, Machine Learning, and Deep Learning2021/03 – 2021/04
- Artificial Intelligence for Beginners2020/04 – 2020/05
- Machine Learning Using Python2020/04 – 2020/05
- Statistical Data Analytics for Business Research2020/04 – 2020/05
- Data Science for Engineers - NPTEL2021/01 – 2021/03
- Programming in Java2016/05 – 2016/06