

SUMAN MAJJARI

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 [LinkedIn](#)

 [GitHub](#)

 [LeetCode](#)

 [GeeksForGeeks](#)

Education

Texas Tech University

Aug. 2023 – May 2025

Master's in Computer and Information Sciences, **CGPA - 3.58**

Lubbock, Texas

Experience

IIITDM Kancheepuram University

May 2021 – Jul. 2022

Full Stack Web Developer Intern

Chennai, TamilNadu

- Led a team of 4 in developing web modules for a university portal using PHP to help 150+ employees manage data.
- Used Bootstrap and CSS to create responsive designs for 10 web pages, integrating AJAX for real-time communication.
- Designed RESTful APIs to manage employee data and optimized MySQL connectivity using PHP's MySQLi extension.
- Applied hierarchical role-based access control with inheritance to secure 5 access levels and enable granular permissions.

Projects

BraTS Brain Tumor Segmentation (BraTS2020) | Python, NumPy, TensorFlow

Aug. 2024 - Nov. 2024

- Engineered a modified DUCKNet architecture in TensorFlow for brain tumor segmentation on the BraTS2020 dataset, achieving an 88.72% Dice Coefficient on validation data.
- Designed and implemented an optimized data preprocessing pipeline to enhance MRI-based diagnosis accuracy and model generalization.
- Conducted model training and fine-tuning on a 40GB NVIDIA A100 GPU, utilizing NumPy and TensorFlow for efficient large-scale deep learning workflows.

MediaHUB | Node, MongoDB, Express, JavaScript

Jan. 2024 - Apr. 2024

- Developed a web app for exploring digital media using **Express.js** and **Node.js** with responsive design and real-time data through **RESTful APIs**.
- Built an efficient asynchronous comment system with **AJAX** for threading and **file uploads using Multer** middleware.
- Implemented robust secure user authentication with **Passport.js**, enabling personalized ratings and session management.
- Designed a scalable MongoDB database infrastructure with Mongoose to support CRUD operations, deployed on Heroku.

MST Visualizer and Time Analysis | Visualisation, Python and DSA

Aug. 2023 - Nov. 2023

- Implemented **Borůvka's**, **Reverse-Delete**, **Prim's**, and **Kruskal's** MST algorithms in Python, optimizing Union-Find with path compression and rank heuristics for efficient edge selection.
- Performed extensive benchmarking of the 4 MST algorithms across **dense**, **sparse**, and **average graph types** using **timeit**, validating empirical complexity through 1000+ iterations.
- Built a robust MST visualization framework with **NetworkX** and **Matplotlib**, emphasizing critical edges and weight distributions for insightful algorithm comparison.

Pneumonia Diagnosis from Chest X-ray Images | Python, NumPy, TensorFlow and Keras

Jan. 2023 - Apr. 2023

- Designed and implemented a deep learning system for pneumonia detection using **CNN**, **MobileNet**, and **EfficientNetB0** models, achieving **93%**, **97%**, and **99%** validation accuracy respectively on chest X-ray images.
- Built an optimized data preprocessing and model training pipeline, enabling efficient training and real-time inference for clinical deployment.
- Performed comparative analysis with prior models (**DenseNet-169**, **VGG-19**), demonstrating superior classification accuracy and reduced computational cost using EfficientNetB0 and MobileNet architectures.

Technical Skills

Programming Languages: Java, Python, C++, C, JavaScript, HTML, CSS, PHP.

Backend Development: Spring Boot, Spring MVC, Spring Data JPA, Spring Security, Hibernate, REST, RESTful APIs, Node.js, Express.js, Microservices Architecture.

DSA & Design Principles: Data Structures & Algorithms, OOP, Design Patterns, SOLID Principles.

Tools & Frameworks: Maven, Gradle, JUnit 5, Postman, Git, GitHub, Jenkins, GitHub Actions, IntelliJ IDEA, VS Code, PhpMyAdmin, JIRA.

Databases & Messaging: MySQL, PostgreSQL, MongoDB, SQL, Hibernate ORM, RabbitMQ, Kafka.

DevOps: Linux, Docker, Kubernetes, CI/CD (GitHub Actions, Jenkins), Monitoring (Prometheus, Grafana).

Others: Agile & Scrum Methodologies, Operating Systems (Linux, Windows, Mac OS).

Awards & Achievements

- Solved 500+ problems on **GeeksforGeeks** and **LeetCode**, ranked 1st at Texas Tech University in GFG Coding Profile.
- Recipient of the **Computer Science Department** and **Graduate School Competitive Scholarships** at Texas Tech University for academic excellence and merit.
- Received a **Certificate of Excellence** in Design and Innovation for my team's exceptional academic project.
- Secured the **Foundation for Excellence (FFE)** scholarship for all four years of my Bachelor's as a top student.