

# SAUMYA CHAUDHARY

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## EDUCATION

**Master of Science in Computer Science** | University of Illinois at Chicago, Chicago, IL

**August 2024 – May 2026**

*Relevant Coursework: Artificial Intelligence-I, Introduction to Data Science, Big Data Mining*

GPA: 4.00

**Bachelor of Technology in Computer Science** | Medicaps University, Indore, India

**August 2020 – July 2024**

*Relevant Coursework: Software Engineering, Computer Networks, Data Structure, Object-Oriented Programming*

GPA: 3.70

## TECHNICAL SKILLS

**Programming Languages:** Python, C#, SQL, C++, HTML, CSS, R, .NET

**Libraries & Frameworks:** NumPy, Pandas, Scikit-learn, Matplotlib, TensorFlow, Keras, GANs, OpenCV, PyTorch, Flask APIs, Seaborn, Apache Spark, NGINX

**Tools & Platforms:** Docker, Gitlab, GitHub, Postman, Linux, TensorBoard, Git, AWS, Google Cloud

**Database:** MySQL, Microsoft Server SQL, MongoDB, PostgreSQL

## EXPERIENCE

**Software Engineering Intern at Swastika Investmart Ltd** | Indore, India

**January 2024 – July 2024**

- **Stock Pages Backend Development** – Engineered the backend for the stock information page using Python and Flask API, enabling seamless data access. Defined a nightly cron job to update the MongoDB database with 3,000 stocks. Leveraged Docker for reliable deployment and NGINX for secure API responses.
- **Customer Onboarding Email Sequence** – Revamped customer acquisition emails by fixing issues in 20 C# templates and APIs, resulting in an improved onboarding experience and a 3% reduction in onboarding time.
- **Research Calls Impact** – Built C# APIs to email trade reports, analyzing 30 stocks' trade calls daily. This improved the decision-making speed of the research department by 15%.

**Research Intern at Space Application Center, ISRO** | Ahmedabad, India

**June 2023 - August 2023**

- **Reconstruction of Blue Band of Image using GANs** - Regenerated the blue band of approximately 1 million images using red, green, and near-infrared images, effectively addressing the blue band detection problem in satellite imagery.
- Conducted a comprehensive analysis of existing methods, leading to the development of a custom GAN from scratch using TensorFlow and Keras. Trained a custom GAN for 500 epochs to achieve 94% accuracy, surpassing prior solutions.
- Utilized Dense block and U-Net architecture, with rigorous performance evaluations demonstrating significant improvements over the pix2pix model, both quantitatively and qualitatively.

## PROJECTS

### Traffic Sign Classification System

- Employed a Convolutional Neural Network (CNN) to classify traffic signs into 43 distinct classes using the German Traffic Sign Recognition Benchmark dataset. The model was trained and fine-tuned, achieving an accuracy of 93%.

### Music Recommendation System using Embeddings

- Developed a recommendation system using song lyrics to address the cold start problem. Utilized Word2Vec, graph embeddings, and Sentence-BERT for song embeddings. Analyzed 10,000+ songs from Last.fm and Million Song Dataset, leveraging XGBoost for artist-tag-based recommendations.

### Wildfire Prediction Model

- Developed a fire cause and size classifier using 300,000 fire records, achieving 70% and 73% accuracy with Random Forest and SMOTE. Performed data analysis, identified key factors, and visualized fire demographics across decades.

## POSITIONS OF RESPONSIBILITIES

**Assistant Head of Marketing and Management at Medi-Caps Incubation and Innovation**

**January 2021 – December 2022**

- Supervised the Incubation Center's day-to-day operation and the cell's specific initiatives. Facilitated around 10 innovation workshops.
- Coordinated and executed the events performed by the group, ensuring a user-friendly experience. The event reached the maximum audience by marketing it across social media platforms, increasing participation by 25%.