

**SUMMARY:** Graduate Computer Science student at Northeastern University with a specialization in Data Science and AI. Experienced in building AI-enabled solutions using GenAI, LangChain, RAG, and cloud technologies like AWS and GCP. Proficient in Python, NLP, vector databases, CI/CD pipelines, and prompt engineering. Demonstrated success in automating complex workflows using LLMs and agentic frameworks. Eager to contribute to AI enablement initiatives at scale.

EDUCATION

Northeastern University, Boston, MASep 2024 – Present

Master of Science in Computer Science

Relevant Coursework: Algorithms, Machine Learning, Essentials of Data Science, DBMS, Cloud Computing

Anna University, Chennai, IndiaAug 2020- May 2024

Bachelor of Engineering in Computer Science and Engineering

TECHNICAL SKILLS

Programming Languages: Python, SQL, R, C, Java

ML and NLP: Scikit-learn, TensorFlow, PyTorch, Keras, SpaCy, CNNs, A/B Testing

Statistical Methods: Hypothesis Testing, Statistical Modeling, Experiment Design, Probability Distributions

AI & LLM Tools: OpenAI APIs, Hugging Face Transformers, LangChain, Prompt Engineering

Data Engineering & APIs: Apache Spark, Airflow, FastAPI, REST APIs, PostgreSQL, MongoDB, MySQL

Analysis/Visualization: Pandas, NumPy, Matplotlib, Seaborn, Plotly, Tableau, Power BI, Excel

Cloud & DevOps: Docker, Git, AWS(S3, SageMaker,Lambda,EC2), GCP, Terraform, GitHub Actions, Postman

WORK EXPERIENCE

Brainvault Technologies, India | Software Developer InternJan 2024 – Jun 2024

- Built a smart assistant using **OpenAI APIs**, Hugging Face Transformers, and FastAPI to generate automated travel itineraries and perform **location-based RAG-style retrieval**, reducing planning time by 80–90%.
- Integrated **LangChain** to implement agentic workflows with custom prompting and embedding-based search.
- Delivered features such as automated itineraries, surprise trip planning, and nearby attraction suggestions, **reducing planning time by 80–90%** and improving client engagement.
- Fine-tuned and evaluated LLMs (Gemini, LLaMA)** for domain-specific text parsing with 90–95% accuracy, automating PDF extraction workflows using **PDFPlumber** and reducing manual review time significantly.
- Collaborated cross-functionally with product and engineering teams to prototype and operationalize ML/Generative AI solutions, demonstrating experience in fast-paced, startup-style environments.

Waycool Food and Products Pvt. Ltd, India | Machine Learning InternSep 2022 – Nov 2022

- Traditional methods for analyzing grain size were slow and error-prone; designed a **CNN-based** deep learning model to identify, count, and measure grain sizes **with 85–90% accuracy**, significantly improving precision and consistency.
- Enhanced model performance by applying advanced feature extraction, adaptive thresholding, and custom data preprocessing, **reducing computational time by 85%** without compromising accuracy.
- Applied custom preprocessing, statistical validation, and performance benchmarking to deliver actionable insights from vision data.
- Gained deep expertise in computer vision and **model optimization**, earning top performance scores within the intern cohort and commendation from senior data scientists for quality and impact.

PROJECTS

NLP Agent for Legal Document Understanding | [Github-Repo](#)Jan 2024 – Jun 2024

- Built an automated **legal document extraction system** for a legal client, using **Gemini, LLaMA Parse, spaCy, and regex** to reduce manual review and structure legal data, supporting **ML workflow automation and model deployment using FastAPI**.
- Fine-tuned and evaluated LLMs** to boost accuracy, achieving **85–90% extraction precision** and improving processing efficiency for the client.
- Deployed system with **FastAPI** and optimized memory handling for long multi-page documents using a **RAG architecture**.

Multilingual Real-Time Profanity Detection with Audio & NLP | [Github-Repo](#)Jan 2024 – May 2024

- Developed a real-time multilingual profanity filter for **Rajalakshmi Engineering College** using **STT, NLP, and deep learning**, achieving **95% accuracy in live audio censorship**.
- Enhanced processing speed by 30%** through parallelized text analysis and TTS, enabling real-time delivery of clean transcripts or filtered audio output with **API deployment and real-time system monitoring**.

Analysis To Find Relationship Between Mental Trauma, Rape, and Suicide | [Github-repo](#)Sep 2023 – Dec 2023

- Conducted EDA for a research project** on population-level trauma and suicide datasets under faculty guidance, analyzing trauma, rape, and suicide data using Python to uncover key correlations.
- Applied statistical analysis and hypothesis testing to validate trends and ensure actionable recommendations.
- Preprocessed and visualized datasets into **interactive business reports** improving interpretability by **50%** for use by policymakers and mental health researchers.

Predictive Modeling for Loan and Insurance Cost Estimation | [Github-Repo](#)Sep 2023 – Dec 2023

- Developed ML models for Rajalakshmi Engineering College** to predict loan eligibility and insurance premiums using financial and health data.
- Boosted accuracy by 10% (loans) and 8% (insurance)** by optimizing **SVM, Decision Trees, Random Forests, and Gradient Boosting**.
- Conducted **feature importance analysis and hypothesis testing** to simulate **A/B scenarios**, optimizing risk and pricing decisions. Applied statistical validation to guide model improvements and business strategies.