

SRIRAM MADHIYALAGAN

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Education

New York University, New York City, NY

Sep 2024-May 2026

GPA : 3.45/4

Master of Science in Computer Science

Sri Sairam Institute of Technology, Anna University, Tamil Nadu, India

Aug 2018- May 2022

GPA : 8.44/10

Bachelor of Engineering in Computer Science and Engineering

Technical Skills

Languages and Databases: Python, C++, Java, Dart, XML, C, SQL, MySQL, MSSQL, PostgreSQL, MongoDB, MongoDB Atlas, Firebase

Libraries and Frameworks: LangChain, Spring Boot, Flask, Flutter, Pandas, Numpy, Sklearn, FastText, NLTK, Junit

Cloud and Other Technologies: Android Studio, Databricks, AWS, BigID, Docker, Kubernetes, Postman, Git, Jenkins, JIRA, GCP

Experience

Software Engineer Intern | *Python, LangChain, RAG, PostgreSQL, Web Scraping, GCP*

Jun 2025- Aug 2025

CEART.io, New York, USA

- **Architected** a modular counterparty risk analysis pipeline integrated with a **due diligence** scoring system for **renewable energy** projects, enabling **structured insights** from multiple data streams and reducing **false positives** by **90%**.
- **Streamlined multi-source, multi-stage data ingestion pipeline** with parallel scraping, fuzzy filtering, and robust retry logic, accelerating analysis by **83%** and slashing **LLM API costs by 75%** via prompt optimization and result caching.
- **Embedded** custom RAG pipelines and LangChain flows (agentic + sequential) for extracting and scoring counterparties from 1000+ long-form project documents indexed via LamalIndex.

Software Engineer | *Java, Spring Boot, MongoDB, MySQL, Databricks, BigID*

Jun 2022- Jun 2024

Expleo Solutions Ltd, Tamil Nadu, India

- Led Data Governance initiatives, optimising data management and enhancing client-focused software development, achieving a **20% reduction in errors** and improved data accuracy.
- Achieved 50% performance gains in metadata exchange between big data platforms and **optimized** MongoDB storage, slashed transfer time from **12h to 2-4h** for **2M entries/2PB**, significantly boosting speed and scalability.
- **Revised** REST APIs with Spring Boot, reducing response latency by **20% (2s→1.6s)** on large transfers and project delivery time by **15%**, while integrating microservices for scalable deployments on Docker and Kubernetes.

Software Engineer Intern | *Java, Spring Boot, MongoDB*

Oct 2021- Jun 2022

Lucid Technologies & Solutions Pvt.Ltd, Tamil Nadu, India

- Pioneered a project management system with a team of 4, **ensuring** REST API responses under **0.5 ms** using Spring Framework.
- Engineered and refined REST APIs for a Data Governance project using Spring Boot and MongoDB, **slashing API latency by 25%** for large data sets. This enhancement **attracted new customers**. Coordinated via **Jira** and adhered to **Agile methodologies**.

Software Engineer Intern | *Java, MySQL*

May 2021- Jul 2021

Zoho Corporation, Tamil Nadu, India

- Designed and created a "Train Reservation System" employing Java and a MySQL database.
- Implemented an algorithm for seat allocation that's **40% faster** than conventional methods, **prioritising efficiency and optimization**.

Software Engineer Intern | *Flutter, Dart, XML, Android studio ,BLE*

May 2020- Oct 2020

Forbes Marshall Pvt Ltd, Tamil Nadu, India

- Spearheaded the creation of a comprehensive user interface (UI/UX) using Flutter and **Bluetooth Lite** for seamless interaction with various equipment. This included custom pressure gauge dials **replicating real dials**, which elevated the **user experience by 30%**.
- Synchronised equipment monitoring data with a real-time Firebase database, ensuring **real-time equipment status updates** and **reducing monitoring delays by 25%**.

Projects

Anime Recommendation System | AWS, MongoDB Atlas, Python, Hugging Face, Llama 3.1, React

- Built a multi-source, multi-stage pipeline for weekly anime data, **reducing retrieval time by 25%**; integrated sentiment and filler detection (**90% accuracy**) and deployed a prompt-driven RAG system with vectorized outputs on AWS using MongoDB Atlas.

Search Engine with Sharded Inverted Index | *C++, BM25, Multithreading, PHP*

- Engineered a scalable search engine using a sharded inverted index and BM25 ranking, reducing query response time by **50% (4s to 2s)** via multithreading, VarByte compression, and heap sort.

BuildWise – AI-Powered Conversational Assistant | Python, Llama 3.1, LangChain, RAG, React

- Developed an AI tool for construction tech using a custom RAG pipeline to parse unstructured legacy documents, cut retrieval time by 40%, ensure 95% compliance accuracy, and reduce manual effort by 60% via automated reports, visual insights, and chat interface.

Additional Experience and Achievements

- **Recognized nationally and internationally:** Represented college at Smart India Hackathon 2021; **Won** Nogood Hackathon (New York) for AI-driven solutions; placed **3rd** out of 500+ at MAKE@SVCE by AEEE; **led** intercollegiate CS Symposium in Chennai.