Srinath Suresh Kumar

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Education

Georgia Institute of Technology **Aug. 2024 – May 2026**
Master of Science in Computer Science GPA 4.0/4.0 *Atlanta, Georgia*

Relevant Coursework: Big Data Systems, High Performance Computing, High Performance Computer Architecture

College of Engineering Guindy **Aug. 2018 – May 2022**
Bachelor of Engineering in Computer Science & Engineering (Hons) CGPA 9.29/10 *Chennai, India*

Experience

Arcesium India Pvt Ltd **June 2022 – July 2024**
Senior Software Engineer *Bengaluru, India*

- Developed a self-serviceable platform to build ETL pipelines reducing the end-to-end build and deployment time by 90%
- Orchestrated an event-driven ETL pipeline triggering system, with 30% increased resource efficiency of ETL jobs
- Reduced the metadata fetch time to less than 100 milliseconds from 7-10 seconds by building distributed caches
- Implemented distributed rate-limiting for the micro services in the platform using Bucket4j with less than 10ns latency

Software Engineer *Hyderabad, India*

- Built APIs to query/edit data in the data lake, reducing the completion time from 2-3 minutes to under 30 seconds
- Worked on benchmarking and dynamic allocation of resources for ETL jobs, reducing the cloud costs by up to 35%
- Implemented the CI pipelines, installed horizontal auto-scalars and AWS resource provisioning for the data platform

CEG Tech Forum **November 2021 – June 2022**
Backend Developer / DevOps *Chennai, India*

- Deployed APIs for registration and payments with subsecond latencies & payment success rate greater than 99.8%
- Designed the cloud architecture on AWS for deploying APIs, web pages, databases, and online games
- Scaled the system to handle a traffic of close to 1 million incoming requests a day with 100% uptime

Arcesium India Pvt Ltd **May 2021 - August 2021**
SDE Intern *Hyderabad, India*

- Enhanced the feed data enrichment API responses with standardisation metadata without any additional latency
- Developed UI components with ReactJS to display this metadata, increasing user engagement by 20%

Technical Skills

Languages:C/C++, Java, Kotlin, Python, JavaScript, SQL
Technologies/Frameworks: Spring Boot, NodeJS, Flask, ReactJS, Hazelcast, Express
Devops: Docker, Kubernetes, Scaling (HPA), Gitlab CI/CD Pipelines, Amazon Web Services, Argo
Data Engineering: Apache Spark, PySpark, AWS Glue, Amazon Athena, Trino, ETL pipelines, PostgreSQL, Delta
Data Science: Machine Learning and Deep Learning (Scikit-learn, TensorFlow, Pytorch, Numpy, Pandas)

Projects

Concurrent Operations on B-plus Trees **August 2024 - December 2024**

- Studied and implemented concurrent operations on B-plus tree with locking and lock-free mechanisms (in C/C++) to model data structures for highly parallel computing workloads. Experimented with multi-threaded and multi-processor systems and studied their behavior in high/low contention scenarios

Ensemble of LLMs for Sentiment Analysis on Neologisms **September 2024 - December 2024**

- Implemented an ensemble for Large Language Models (LLMs) to detect sentiment expressed by Neologisms on Social Media and achieved an accuracy of 87% on Twitter Neologisms using Hugging Face Transformers and PyTorch
- Studied the performance of task based fine tuning techniques and resource efficiency PEFT techniques like LoRA, DoRA and AdaLoRA against full model fine tuning of the GPT-2 and BERT based LLMs

SDN-based Intrusion Detection System For Mitigating Automated Malicious Traffic Flows **May 2022**

- Build a traffic classification engine based on Random Forest algorithm to detect anomalous flows with F1 score of 95.3%
- Designed SDN controller rules to identify, verify real human users and serve the requested resources only to legitimate requests increasing file download speeds by 30%

MockChain **July 2020**

- Built a proof-of-work based blockchain application using NodeJS express node and Redis as distributed database
- Deployed services to create wallets, conduct transactions, mine blocks, publish the mined blocks to all the peers on the network and a ReactJS based UI for users to interact with the block chain