Adithya Hegde

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Summary

Systems and runtime behavior in large-scale computing, focusing on scheduling, resource management, and performance predictability under contention.

Publications

COUNSEL - Cloud Resource Configuration Management using Deep Reinforcement Learning May 2023
Adithya Hegde, Sameer G. Kulkarni, Abhinandan S. Prasad
10.1109/ccgrid57682.2023.00035 (IEEE/ACM CCGRID 2023)

Experience

Software Engineer II, JPMorgan Chase & Co. Jan 2025 – present

- Designed and implemented a unified Spark execution model replacing a Databricks-DynamoDB sync architecture, reducing operational failure modes and improving throughput up to 80% for large workloads without degrading small-workload performance.
- Introduced an input-aware short-circuit in the ingestion workflow, unnecessary Spark ingestion for empty inputs via a Lambda control path, cutting processing time from minutes to seconds and reducing compute usage by ∼20%.

Software Engineer I, JPMorgan Chase & Co. Jul 2023 – Dec 2024

- Profiled memory growth of a Polars-based transformation running in AWS Lambda's constrained runtime; introduced lazy evaluation and explicit object lifecycle control to prevent peak allocation, reducing memory usage by 60% and stabilizing execution latency.
- Brought up a multi-node ingestion system on Kubernetes (EKS + NiFi), implemented Airflow orchestration for distributed workflows, and operated cross-service data movement pipelines in production.
- Accelerated promotion to Software Engineer II for ownership of distributed data infrastructure and performance debugging in production systems.

Software Engineer Intern, JPMorgan Chase & Co. Jan 2023 – Jun 2023

- Implemented a schema-driven validation tool generating record-level checks from external specifications, eliminating iterative reprocessing and reducing failure diagnosis time by 95%.

Education

The National Institute of Engineering, BE in Computer Science and Engineering Aug 2019 – Jun 2023

- Operating Systems, Analysis and Design of Algorithms, Data Structures, Database Systems, Computer Architecture, Cloud Computing, Discrete Mathematics

Projects

POWER RTL-to-C Transpiler Jun 2023

- Transpiler which translates ISA pseudocode to executable simulation models enabling microarchitectural performance experiments in gem5.

Skills

Languages: Python, Java, SQL

Systems & Data: Apache Spark, Databricks, Airflow