# Jashwanth Gajjala

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## EDUCATION

**Stony Brook University (SUNY)** **Aug 2023 - May 2025**
MS, Computer Science | GPA: 3.83 /4.0 *Stony Brook, NY*

**International Institute of Information Technology, Hyderabad** **Jul 2017 - May 2021**
Bachelor of Technology (Hons.), Computer Science | GPA: 8.5/10 *Hyderabad, India*

## SKILLS

**Languages**: Python, Java, Scala, C/C++, C#, JavaScript, Angular, GoLang, HTML, CSS, SCSS.
**Frameworks:** SpringBoot, PyTorch, Tensorflow, Apache Flink, React, React native, Flask, Django, Node.js, Django.
**Tools:** Linux, AWS, MongoDB, Postgres, SQL, Jira, Redis, Hadoop, Spark, npm, Azure Devops.
**Others:** Data Structures and Algorithms, CI/CD, Shell Scripting, Jenkins, Agile, Git.

## WORK EXPERIENCE

### Clarience Technologies — Southfield, MI | May 2024 - Aug 2024

**Software Engineering Intern | Apache Flink, Redis, Postgres, Mongo Atlas, AWS - Lambda, SQS, Kinesis, S3, ECS**

- Created a scalable and efficient AWS-Lambda data pipeline, resulting in a 60% annual reduction in infrastructure costs by processing millions of IoT messages in real-time, ensuring "exactly once" fault tolerance and custom idempotency logic.
- Migrated (>100TB) of document data between MongoDB Atlas accounts using the Lambda pipeline, ensuring data integrity, preserving document order, resulting in concise and cleaner data.
- Improved backend-microservices communication efficiency as evidenced by a significant reduction in API traffic by designing a document model, and business-specific ORM layer for MongoDB and publishing it as a versioned artifact to Azure Artifacts.

### Goldman Sachs Inc., — Hyderabad, India | Jul 2021 - Feb 2023

**Analyst | SpringBoot, React, MySQL, Cron, Apache Kafka**

- Spearheaded 'Balance Synchronization' framework, ensuring seamless consistency for ~200,000 daily transactions across firmwide ledgers, internal data lake, and FIS, by designing and integrating robust data pipeline architecture.
- Implemented automated balance mismatch resolution for ~50,000 accounts daily, reducing processing time from 2-3 business days to seconds via a real-time dashboard, accelerating transaction flow and empowering the operations team.
- Developed in-house transaction processing pipeline, decommissioning the managed FIS solution, cutting $2 million in annual costs while enhancing control and flexibility over transaction workflows.

### Goldman Sachs Inc., — Bengaluru, India | May 2020 - Jul 2020

**Software Engineering Intern | Python, Hadoop, Spark.**

- Streamlined secure PII data pipeline, processing ~1 million records per second, by implementing an encryption and decryption system across all data transmission points within the organization.
- Developed a CRON-based deleter for encryption keys, ensuring timely removal of expired keys and automating the deletion process every 24 hours for enhanced data security.

## PROJECTS

**Speculative Execution in Distributed File Systems | Operating Systems, Linux, Qemu, C**

- Designed and integrated Speculator into the Linux kernel, enhancing distributed file system performance by achieving 2x improvement for NFS over local-area networks.
- Engineered a robust checkpointing system and inter-process communication tracking within the Linux kernel to enable speculative execution while ensuring system correctness.

**MapReduce | Distributed Systems, C++**

- Developed a scalable distributed MapReduce system in C++, deploying across multiple worker nodes to execute tasks in parallel across large datasets, ensuring efficient resource utilization and load distribution.
- Orchestrated concurrent execution of tasks, designing a distributed file handling strategy that generated nReduce intermediate data partitions to minimize I/O bottlenecks and support large-scale data processing.

**Distributed DBMS | Distributed Systems, Database, Python**

- Engineered a Distributed DBMS layer facilitating seamless queries across 6 databases, enhancing speed by 25% through query optimization.
- Developed Query Decomposer, Optimizer, and Data Localizer modules, enabling precise operations across 3 nodes and efficient data retrieval from diverse sharding strategies.