Prajeeth Emanuel

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WORK EXPERIENCE

Amazon.com Services LLC
Software Development Engineer II May 31st 2022 - Present

- Architected and implemented highly-reliable backend services for Amazon Search, enhancing customer experience by managing 1.5 billion daily queries with a 99.9% response time of under 150ms, using AWS ECS, SQS, S3, DynamoDB, and Java.
- Designed and maintained global-scale systems with a focus on scalability, latency, and cost-effectiveness, leading to reduced operational costs by 20% by adopting more efficient data storage solutions and refining service architecture to minimize unnecessary computational overhead.
- As a Tech lead, orchestrated a team of four engineers in a collaborative effort across four cross-functional teams, driving the integration and deployment of key projects within Amazon's Retail and Search organizations.

Apple Inc.
Software Engineer Jan. 2019 – September 2020

- Managed scaling of batch ETL jobs at Apple from prototype to 50+ TB/day enabling information retrieval of webpages, by developing terabyte-scale distributed data processing systems using Spark, Kafka, & Java.
- Designed and built the data architecture for optimal storage & retrieval for terabytes of data (real-time & batch streaming) reducing storage costs by 4x using Apache Cassandra, Solr, Redis, and Parquet.
- Led a team of three engineers and cross-collaborated with multiple teams & stakeholders over a period of twelve months building the legally compliant platform.

Qalaxia Inc.
Software Engineer, Data Jul 2016 – Dec 2018

- Designed and implemented large stateful batch and real-time data pipelines to mine terabyte scale datasets using Spark, Kafka, Java and stored processed data in MongoDB.
- Built high-performance ETL pipelines and data warehousing systems to enable data science workflows and improved ingestion of 10 million structured records and processing time by 30%.

PUBLICATIONS & GRANTS

- **ICDCS** (2022) - Near-Data Processing For Analytics Frameworks
- **ACM SIGSPATIAL** (2021) - GPU-Based Real-Time Contact Tracing at Scale
- **NSF SBIR** (2018) **#1843326** - Skill-aware query engine for K12 Classrooms

EDUCATION

Stony Brook University
M.S. Computer Science - 3.92 GPA *Stony Brook, NY*

- Advised by Prof. Fusheng Wang - Research Project: Scalable Reachability Queries on Spatial-Temporal Datasets.
- Selected Coursework: Distributed Systems, Big Data Systems and Algorithms.

IIIT Hyderabad **2012 - 2016**
B.Tech. Computer Science *Hyderabad, IN*

- Selected Coursework: Mathematics III, Data Structures, Advanced Computer Networks, Advanced Database Systems, Distributed Systems.

TECHNICAL SKILLS

- **Languages:** Java, Scala, Python, JavaScript, C++
- **Distributed Systems Frameworks:** Flink, Spark, SQS, Kafka
- **Monitoring Tools:** Grafana, Splunk
- **Datastores:** MySQL, MongoDB, Solr, DynamoDB, Elasticsearch, Cassandra, Redis
- **Infrastructure & Workflow Scheduling:** AWS, GCP**,** Jenkins