Ananth Deepak Sharma Nanduri

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Summary

Software Engineer with 5 years of experience designing, building, & optimizing scalable, distributed systems in cloud environments. Proficient in Java, Python, AWS, DynamoDB, & Lambda. Skilled in developing secure, high-performance software solutions, with a solid foundation in data modeling, distributed systems, & microservices architectures. Led Agile teams, mentored junior developers, & drove technical initiatives. Expert in troubleshooting complex issues, improving system performance, & implementing security practices. Focused on delivering customer-driven, & reliable software.

Professional Experience

Software Development Engineer, Amazon, *Seattle, WA* **Jun 2022 – present**

- Designed & developed community features like Comments, Replies, & Likes, designed an in-app notification service(Alerts) to ensure timely updates to drive user engagement contributing to the organization goal of improving the engagement to 10%.
- Engineered metrics for the Follow button on creator profiles, implementing back-end logic using Java Spring, REST controllers, & DynamoDB to track engagement & integrate with reporting services to increase the follow rate by 10%.
- Led the design & implementation of a GDPR-compliant solution, collaborating with the legal team to ensure regulatory adherence. Secured cross-team approvals and integrated the solution into legacy software, overcoming Amazon's internal tool limitations. Reduced compliance risk by automating data tracking & retention policies.
- Colloborated with senior engineers to develop a scalable solution to maintain the correctness of databases which were prone to race conditions as they were imported from a legacy application.
- Developed real-time monitoring dashboards for system health metrics (Latency, Memory Usage, Garbage Collection, Healthy Hosts) & built automated alerting infrastructure using AWS Cloudwatch.
- Built an internal content moderation & tagging application used by 1000s of contractors, utilizing GraphQL for back-end APIs & ReactJS for a user-friendly front-end.
- Developed scalable microservices for content processing, utilizing AWS technologies (Lambda, SQS, SNS, Step Functions, API Gateway, DynamoDB) to filter & categorize content according to product guidelines.
- Integrated machine learning-based content moderation, working with the Science team in Berlin to classify comments using AWS SageMaker, routing flagged content for human moderation based on confidence scores.
- Analyzed the impact of new feature releases on user engagement, using data-driven insights to optimize adoption strategies. Led customer research studies, uncovering key UX pain points, resulting in a 5% improvement in retention metrics.
- Spearheaded the team's leadership goal of ensuring 75% test coverage by developing solid unit tests for our packages and worked on the strategy to move towards test driven development(TDD).
- Managed operational workload by developing standard operating procedures (SOPs), ensuring timely resolution of user-facing issues within SLAs, & driving root cause analysis to implement permanent fixes.

Graduate Teaching Assistant, University at Buffalo, *Buffalo, NY* **Jul 2021 – Dec 2021**

- Served as a Graduate Student Assistant for the Introduction to Artificial Intelligence course, conducting office hours to support students with curriculum-related inquiries, assignment requirements, & technical challenges.
- Assisted the professor in designing assignments, evaluating submissions, & proctoring examinations.

Software Development Engineer, Wipro, *Bengaluru, India* **Jun 2018 – Jan 2021**

- Designed & implemented data ingestion pipelines using Python & AWS Lambda to fetch data from third-party sources (e.g., Marketo), optimizing API calls within request limits.
- Transformed 100's of large-scale datasets of size 20GB with AWS Glue & PySpark, making data accessible via AWS Athena for business analytics.
- Led the migration of an analytics platform from legacy ETL (Ab Initio) to AWS Cloud, designing AWS CDK infrastructure & configuring IAM policies for secure access management.
- Developed CI/CD pipelines using AWS CodePipeline, automating deployment & version control to enhance development efficiency.
- Engineered back-end systems for analytics processing, handling REST APIs & structured data (CSV, JSON, Parquet) while storing multi-dimensional data in AWS Data Lake.
- Provided production support, troubleshooting system issues, applying fixes, & generating detailed reports for senior management.
- Worked on migrating more than 50 Visualisations from Tableau to PowerBI to save costs by 30%

Academic Experience

Master of Science – Computer Science, *University at Buffalo, SUNY* **Jan 2021 - May 2022**

- **Related Coursework:** Algorithms Analysis & Design, Data Intensive Computing, Information Retrieval, Data Models and Query Languages, Introduction to Machine Learning, Modern Network Concepts

Bachelor of Science – Electronics & Comm., *Birla Institute of Technology, MESRA* **Jul 2014 - Jun 2018**

- **Related Coursework:** C and Data Structures, Advanced Data Structures, Computer Architecture, Micro Processors and Micro Controllers, Digital logic design, Neural Networks and Fuzzy logic

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Technical Skills

Languages: Java, Python, TypeScript, JavaScript, C
Database: MySQL, Redshift, DynamoDB, DocumentDB
Frameworks: Spring, Guice, Django, Flask
Microservices & API: REST, GraphQL, OAuth 2.0
Build Tools: Maven, Gradle
Libraries: Pandas,Numpy,TensorFlow,Sklearn,Matplotlib
Frontend: HTML, CSS, ReactJS
Others: AWS, Docker, Linux, API Gateway, Redis, Kafka
Tools: VS Code, IntelliJ, Postman, Git, Jira

Academic and Personal Projects

Car Windshield Crack Detection using Deep Learning

- Developed an iOS application integrated with a leading car resale startup ACV auctions to automatically detect cracks and chips in windshields using Neural Networks.
- Trained a deep learning model on a large-scale proprietary database, achieving a 60% reduction in unreported windshield damage on cars listed for resale, improving listing accuracy.
- Enhanced operational efficiency by automating damage detection, reducing manual inspection time by 50%, and ensuring a more reliable inventory for resale evaluations.

Big Data analysis on Authors dataset using HDFS

- Reduced author co-occurrence lookup time compared to traditional relational databases by leveraging HDFS and distributed computing.
- Processed 10x more research articles efficiently using MapReduce, enabling analysis of millions of author relationships without performance degradation.
- Achieved 50% reduction in storage overhead by using HDFS with optimized data partitioning, compared to SQL-based approaches that required extensive indexing.

Personal Productivity Stack

- Designed & developed a personal productivity stack which manages my daily journal, reminders, notes and my personal knowledge base using Notion.
- Integrated all the workflows with the recent open source generative AI models to analyze and suggest improvements wherever possible.
- Used free APIs that are publicly available like NewsAPI, TrendsAPI and others to gather the trending information and filter the ingested information based on my past trends and preferences.