Sarthak Kothari

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EDUCATION

Northeastern University, Boston, MA Sept 2017 – Dec 2019
College of Computer and Information Science
Master of Science in Data Science
Relevant Courses: Parallel Data Processing, Algorithms, Data Mining.

K. J. Somaiya College of Engineering, Mumbai, India Aug 2013 – Jun 2016
Secured a Bachelor of Engineering in Computer Science.

WORK EXPERIENCE

Nightfall.ai, Seattle, WA Oct 2021 – *Present*
Software Engineer.

- Spearheaded the design and implementation of a large-scale, cost-effective, and distributed platform by leading a team of 3 engineers. This platform efficiently scanned customers' historical data across diverse integrations, routinely handling over 300GB of data per scan. Ensured concurrent support for multiple scans, emphasizing fairness, fault-tolerance, and successful completion for all users. The platform, comprising 5 microservices developed in GoLang, was deployed within a Kubernetes environment, leveraging cutting-edge technologies such as Kafka and gRPCs for seamless communication. Data storage was managed through a combination of CockroachDB, Snowflake, EFS and S3, enhancing overall system efficiency.
- Architectured and developed the highly available, extendable violation service responsible for storing, remediating and reporting violations across all integrations for all customers. Violation service was designed to support high-volume of data, ingesting 100K+ records/hr and retrieving them as necessary using gRPCs and CockroachDB.
- Refactored one of the legacy, resource-intensive integrations which improved overall processing efficiency by 40% and helped in reducing over 22,000 LOC. The refactor ensured reusable, modular architecture which significantly dropped the error rate by 98% and enabled faster adoption & development of new features. Lead a team of 2 engineers for this project.
- Improved data pulling and scanning rate for the integration from 1 minute down to 4 seconds, enabling faster notifications and remediations using temporal workflow orchestrations.

ClosedLoop.ai, Austin, TX Jan 2020 – Sep 2021
Software Engineer.

- Designed, developed, and deployed a scalable microservice using docker on AWS EC2 instances. This service is responsible for managing models, triggering predictions, and generating reports for new customer data using Scala.
- Redesigned automatic report generator to include predictions from multiple models by tracking model completion via MongoDB & AWS SQS, significantly increasing platform's reporting efficiency (≥ 50%) & reducing customer overheads.
- Established a core library for streamed API calls that standardized authentication, logged API usage, and internally notified developers of errors thus improving efficiency, bug detection and system logging.
- Conceptualized, designed, and successfully implemented a comprehensive tagging service, empowering customers to uniquely label and categorize all objects within the platform with their custom-created tags.
- Implemented feature drift tracking by calculating population stability index between model populations in Python & Scala helping customers detect stale models and re-train them for better accuracy.
- Boosted platform's model training & testing time by 25% by parallelizing data preparation leveraging AWS SQS.
- Designed to platform's UI pages that enabled customers to monitor as well as trigger models & reports using React.

Staples Inc., Framingham, MA Jan 2019 – Aug 2019
Software Engineer Intern – Operations.

- Improved weekly demand forecasting by 23% for 550,000+ SKU's, by developing an ensemble of weak models. The models were deployed with a RESTful API encapsulated within a Docker container, ensuring scalability of the prediction workflows.
- Visualized a webpage showing Staple's delivery footprint to recognize key areas of interest with Python and D3.js.

Hansa Cequity, Mumbai, India Aug 2016 – Aug 2017
Software Engineer.

ACADEMIC PROJECTS

Matrix Multiplication in Distributed Environment, Northeastern University, Boston, MA Nov 2018 – Dec 2018

- Implemented the Cannon's vs Simple Block Partitioning matrix multiplication algorithm in MapReduce & benchmarked them on AWS EMR cluster on matrices of different sizes, with Canon's algorithm outperforming Simple Block Partitioning by 20%.

TECHNICAL KNOWLEDGE

Programming Languages : Go, Scala, Python, Java, React, etc.
Databases & Storage Technologies : CockroachDB, S3, EFS, MongoDB, Spark, Snowflake, Neo4j, etc
Tools, frameworks & Cloud Technologies : Docker, Kubernetes, CircleCI, Jenkins, Lagom, Play, AWS, GCP, Git, Jira.