Rushikesh Pharate

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EDUCATION

MS, Computer Science, *Indiana University Bloomington, IN, USA | CGPA: 3.95/4* *Aug 2021 - May 2023*
Coursework: Software Engineering, Applied Distributed Systems, Engineering Distributed Systems, Applied Database Technologies, Computer Networks, Database Design, Elements of AI, Applied Algorithms

BE, Electronics and Telecommunications, *University of Pune, India | CGPA: 3.5/4* *July 2014 - June 2018*

TECHNICAL SKILLS

Languages: Python, JavaScript, C#, Java, MATLAB, C, C++
Databases: MySQL, PostgreSQL, MongoDB, DynamoDB
Web Technologies: HTML5, CSS3, React.js, Next.js, Redux Toolkit, Axios, .NET, Django Rest Framework, Flask, Node.js, Express.js, REST API, JWT, OAuth, Serverless Computing
AWS: Lambda, EKS, ECS, IAM, S3 Bucket, Kinesis, SNS, SQS, DynamoDB, Secrete Manager
Tools & Applications: Docker, Kubernetes, Rancher, Kafka, Splunk, CircleCi, Git, GitHub, MATLAB, Visual Studio

EXPERIENCE

Rocket Central | Software Engineer Intern *May 2022 - Dec 2022*
- Developed a .NET REST API endpoint, including new contracts and thorough unit testing, for seamless communication with other services within the same Kubernetes cluster along with logging.
- Successfully incorporated Blue/Green deployment into the CI/CD workflow, resulting in a **0% downtime** during code changes on AWS.
- Contributed to discussions surrounding the architectural design of services, ensuring optimal performance.
- Configured Terraform to deploy AWS infrastructure like Lambda, S3 Bucket, SQS, DynamoDb, etc.
- Designed and implemented an automatic AWS cross-account S3 file transfer technique, **reducing manual intervention by 100%** and eliminating file handling errors.

Larsen and Toubro Infotech (LTI) | Software Engineer *July 2018 – July 2021*
- Automated NetReveal Sanctioning System regression testing cycle using Java and Selenium Webdriver, resulting in an **80% reduction in total hours** (from 3 days to less than 5 hours), and implemented utilities such as HTML reporter and application health check auto-email generation.
- Streamlined the JSON file creation process to eliminate manual intervention, resulting in a **reduction of 10 hours per week per resource** in execution time.
- Developed SQL scripts to provide required data to System Integration Testing and Performance Testing teams, & collaborated with businesses on a weekly basis to provide updates, identify risks, and define mitigation plans.
- Spearheaded a team of 3 people to complete Standing Orders Maintenance REST web services testing.

KEY PROJECTS

Distributed Key-Value Store | *Python, RPC, Total Order Broadcast, Multiprocessing, Locks* *April 2023*
- Designed a distributed fault-tolerant key-value store that offers Eventual, Sequential, Causal & Linear consistency models handling **500 concurrent** clients
- Implemented Total Order Broadcast algorithm to order **100% of events** on all the servers.
- Successfully demonstrated an understanding of the advantages and limitations of each consistency model, as well as the trade-offs involved in choosing one over another in a detailed report.

Map-Reduce | *Python, RPC, Multithreading, Multiprocessing, Locks, File I/O* *March 2023*
- Designed and implemented a Map-Reduce system from scratch that performs user-defined tasks such as word count and inverted index and logs every event.
- Created a networking environment where all the processes can communicate with each other via RPC calls and report their progress to the master using heartbeats periodically and if a process fails master can respawn it.

WeatherApp | *Docker, Kubernetes, Kafka, ExpressJS, Flask, OAuth, MongoDB, CircleCi* *Jan 2022 - May 2022*
- Designed and developed a highly available, fault-tolerant weather forecasting application using cloud-native technologies, employing the Micro-Services Architecture to plot NASA's NEXRAD and MERRA weather data.
- Implemented Kafka-based asynchronous communication to increase throughput to **400 concurrent requests**, improving application performance and availability.
- Containerized all microservices using Docker and deployed the application in a Kubernetes cluster.
- Created a CI/CD pipeline using CircleCi to deploy the application and achieve **0% downtime** for deployment.

Social Media Platform | *NextJS, Django, PostgreSQL, Redux Toolkit, JWT, Python* *Aug 2021 – Dec 2021*
- Designed and developed a full-stack social media web app with JWT authentication, allowing users to create accounts, make posts, edit profiles, and chat with other users.
- Implemented page creation for users to follow and get notifications, resulting in a **more engaging experience**.