Raj **Shah**

☎ (+1) 980-622-6819 | ✉ shahraj121997@gmail.com | ⌂ rajshah1.github.io | ⬡ rajshah1 | ⬚ rajshah121 | Seattle, WA

Experience

Software Developer Engineer   *Seattle, WA*

Amazon Inc   *July. 2022 - Present*
- Engineered a high-performance, cross-account Cloud Watch metrics replication system employing **Lambda, EventBridge, IAM, Config and SQS**. This scalable, push-based solution aggregates metrics from cross regions into a centralized account, enabling unified alarming for both custom and native services globally. Utilized **JUnit** and **Canary** to conduct comprehensive testing and validation.
- Designed an orchestration based service workflows for automating spot testing on EC2 instances, using **API Gateway**, **SWF**, and DynamoDB. Reduced operational load by **70%**, increased testing frequency **3x** and enabled on-demand testing across organization.
- Developed EC2 provisioning tool for ML servers using **Step Functions**, Rust scripts and Data Pipeline. Automated network card installation and validation, resulting in **$1.3M** capex savings.
- Innovated a global data aggregation system, consolidating zonal RDS databases into a **Redshift** cluster using **AWS Glue, SNS**, and CronJobs. Devised an interactive **QuickSight** dashboard for real-time monitoring of AWS recovery efforts. Furthermore, optimized query performance by **60%** through **automated materialized views** and **parallel indexing**.
- Streamlined the recovery process for ML servers with GPU failures automatically using Step Functions, **SNS** and DynamoDB .Reducing the server unsellable time by **50%**.Integrated workflow with **X-Ray** and **Cloud Watch** to increase operation visibility.

Enterprise Application Developer   *Charlotte, NC*

UNIVERSITY of NORTH CAROLINA   *Apr. 2021 - May. 2022*
- Developing web applications to assist university employees with budgets, petitions and admissions using **React.js** and **Spring**.
- Generated custom reports, dashboards and financial records utilizing DataTables, **Redux** and iText PDF. Responsible for development of **100+** reusable React components. Integrated data sources with **Spring Data JPA** and Doctrine ORM, unit tested services with JUnit and **Jest**.

Senior Software Developer   *Pune,India*

INFOSYS LTD   *Jul. 2018 - Jan. 2021*
- Developed enterprise applications and REST api to perform consumer due diligence, and credit investigations for financial institute.Using AWS Lambda, **Kafka Streams** and **API gateway** created workflows that integrates third party systems.
- Enhanced legacy applications with distributed Redis caching, **AWS Coginito** Oauth and **JDBC** batching to handle **x10** requests.
- Integrated end-to-end observability using AWS CloudWatch and X-Ray, slashing debug time by **40%** and elevating operational excellence
- Configured **Jenkins** and **codepipeline** systems to deploy kubernetes clusters, reduced load with dependency and JVM optimization by **30%**.

Education

University of North Carolina   *Charlotte, NC*

MS IN COMPUTER SCIENCE | GPA: **4.0**/4   *Jan. 2021 - May. 2022*
- Coursework : Database Systems, Parallel Computing, Object Oriented Programming, Cloud Computing, Neural Networks and Deep Learning

Dharamsinh Desai University   *Nadiad, India*

B.TECH IN INFORMATION TECHNOLOGY | GPA : **7.8**/10   *Aug. 2014 - May. 2018*
- Coursework : Data Structures, Algorithms, Distributed Operating System, Design Patterns and Applied Framework, Computer Security

Skills

Programming	Kotlin,Java, Python, Javascript, GO, Rust
Tools / Technologies	Docker, Git, Selenium, Junit, Mockito, Jenkins, Helm, ArgoCD, Chameleon, Quicksight
Frameworks / Libraries	Step Functions, Node Js, CDK, OpenSearch, React Js, Spring, SWF, Flask
Cloud / Database	AWS, Azure, ElastiCache, Redis, MongoDB, Redshift, DynamoDB

Projects

Fix Deposits Management Application (Spring Webflux, React Js, EC2, Neptune)   *Dec. 2021 - June. 2022*
- Implemented an e-deposits and bond governance web application which generates detailed reports, notification emails and data entry.
- Constructed secured APIs for **CRUD** operations, PDFs and email templates creation with iText PDF, Mailer, Spring Data and WebFlux. Built responsive React components and custom pages which generate reports in CSV, PDF format and display data using DataTables and **Neptune**.
- Deployed application Docker containers to AWS **EKS** with RDS as database. Supporting **10+** Active Paid Clients.

Visa Appointment Notifier Application (Node Js, Puppeteer, Cherrio ,Lambda, MongoDB)   *Jan. 2022 - April. 2022*
- Created automation system which analyzes website for available U.S. visa dates adopting cron jobs, Mailer, **Cheerio** and **Puppeteer** packages
- Captured captcha and account info using Death By Captcha API and **MongoDB**. Leveraged Bootstrap and **JavaScript** to create UI application
- Designed Lambda which trigger email flow when dates become available. Software has served more than **100+** student clients.

Serverless Data Analysis Platform (S3, Athena, D3.js, Plotly , Lambda)   *April. 2021 - Dec. 2021*
- Created system which visualizes CSV, Excel data in charts and trains models with Linear Regression and Similarity Search for prediction.
- Leveraged **D3.js** and **Plotly** to plot 20+ charts. Data modeling and projections were achieved with scikit-learn and Pandas on selected features.Implemented Athena for efficient querying of large-scale datasets stored in Amazon S3.

Certifications

Google Developer Group Leader, Conducting live code sessions and workshops on cloud, devops and machine learning.

AWS Solution Architecture, Skilled in designing network architectures using **VPCs**, subnets, and **security groups** and AWS services.

AWS Developer, Proficiency in **cloudformation**, Data storage, IAM, **EKS** container deployment with open source programs.