

Experience

Software Development Engineer at AMAZON (Jan, 2022 – Present)

Implemented ingestion workflow of invoices in Polish invoice format into our systems through government's automated channel.

This includes adapting of business document into our systems' format, enrichment of document using multiple sister services to fill in missing data, validation of document based on business rules to proceed or reject invoice and finally passing document for payment. Implemented ingestion of invoice through manual channel for re-creation of rejected invoices and created ReactJS/Redux web-app hosted on CloudFront to provide consolidated view to see the corrections.

This solution allowed automated ingestion of **150,000 invoices** totalling to **\$9.75M per year** in Poland.

Delivered auditing solution for invoice correction database using AWS DynamoDB Streams, Lambda and SQS.

This enables analysts to track journey of correction, provides auditing data for checking any inconsistency/fraud and simplifies debugging and post-production support.

Solution was designed to be tolerant to any kinds of failures to ensure data integrity with self-correcting measures in place.

This solution will enable the auditing of around **45,000 corrections** (creating around **225,000 history items**) that will expected per year in Poland and will require no further enhancements in order to expand to other regions.

Delivered automated reconciliation system using AWS SQS, Lambda, DocumentDB, API Gateway on CDK to track invoices across systems from arrival to payment. Implemented end-to-end integration tests on Lambda to automatically test entire workflow reducing future maintenance effort.

Created ReactJS/Redux web-app hosted on CloudFront to provide consolidated view to see the invoices. This eliminated our analysts' manual effort of reconciling **~1.2M (10-20% increase yearly) invoices** per year.

Root caused and fixed multiple issues in core pipeline that were causing deployment failures and downtime. Fixes include detecting and eliminating memory-leaks, fixing incorrect configurations, upgrading hardware, removing/upgrading packages. This increased the deployment success rate from **80% in 2022 to 93.9% in 2023** (i.e. **13.9% improvement**) and **0 downtime**.

Migrated invoice search API from legacy elastic search to Amazon OpenSearch to fulfill long-term goal of deprecating legacy search service.

Performed shadow-testing for comparing results between both services to gain confidence without affecting production traffic.

This led to better API performance (**42% lower latency**) along with tremendous cost savings (**\$101137 per year**) and maintenance load reduction (**194 tickets per year**).

Frontend Web-Developer Intern at OMIKRON INDUSTRIES (Oct – Dec, 2020)

Created a React application for a hair-treatment company to register and manage multiple clinics while using JWT tokens for authentication. Integrated Stripe to allow payments through credit/debit cards.

Developed a Vue application for an online pet store with support for multiple search criteria backed by MongoDB Realm.

Created Python scripts to automate filtering and upload of raw/scraped data to Firebase and MongoDB Atlas.

Education

Master of Computer Application (MCA) University of Delhi (2019 – 2022)

Bachelor of Science (B.Sc.) (Hons.), Computer Science University of Delhi (2016 – 2019)

Senior Secondary (XII), Science Bright Lands School, Dehradun (ISC Board - 2016) Percentage: 94.50%

Secondary (X), Science Bright Lands School, Dehradun (ICSE board - 2014) Percentage: 90.20%

Technical Skills & Tools

Programming Languages – **TypeScript, Java**, Python
Backend Frameworks – **Express**, Django
Databases – **DynamoDB**, MongoDB, PostgreSQL
Frontend Frameworks – **React, Redux Toolkit**, Vue
Cloud – **AWS S3, Lambda, API Gateway, SQS**,
DynamoDB Streams, CloudFront, **infrastructure-as-code**(CDK)

Projects

Interview Fox (Oct – Nov, 2020)

An interviewing and social platform for businesses and employees. Uses Express and MongoDB for serving the REST API for the React application and JWT tokens for authentication. Allows real-time messaging with the help of WebSockets using Socket.io.

Tech Toys (Aug – Sep, 2020)

An e-commerce platform for buyers and sellers. Built using Vue and Django serving a GraphQL API with image upload support.

Snake Swipe (Jan - Feb, 2020)

A snake game that recognizes swiping gestures to control the game. Written in Python and uses OpenCV for processing the image feed from the webcam.