

# Anusha Narthu

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## SUMMARY

As an experienced Software Engineer, I specialize in crafting scalable and highly efficient software systems. My expertise spans full-stack development, adeptly applying agile methodologies, and fostering innovation through collaborative problem-solving.

## EDUCATION

**M.S. in Data Science**  
**University at Buffalo**  
Jan 2021 - May 2022

**B.Tech. in ECE**  
**Jawaharlal Nehru Technological University**  
July 2013 - May 2017

## LINKS

 github  
 linkedin  
 website  
 medium

## SKILLS

### Programming

Java • Python • JavaScript • C •  
TypeScript • C++ • SQL

### Web Technologies

Node.js • Next.js • ReactJS • NestJS •  
Spring • Spring Boot • Python Dash •  
JQuery • Bootstrap • CSS

### Databases

MySQL • PostgreSQL • Amazon  
DynamoDB • Amazon DocumentDB  
• MongoDB • Chroma DB

### Applied Machine Learning

LLMs • CNNs • RNNs • PyTorch •  
TensorFlow

### Other Tools/Tech

AWS • Microservices • RESTful APIs  
• Jira • Plotly • Postman • Docker • S3  
• MATLAB • Hibernate • Azure

## COURSEWORK

### Graduate Studies

Machine Learning  
Natural Language Processing  
Information Retrieval  
Data Mining

### Undergraduate Studies

Data Structures Algorithms  
Computer Networks  
Software Architecture  
Distributed Systems

## EXPERIENCE

**Moderna** - Software Development Engineer 2 | Seattle, USA July 2023 - Present

- **mChat web app:** Developed mChat, a multimodal chatbot platform using multiple LLM models and image generation. Engineered document processing capabilities, including PDF chunking, embedding, and semantic search, integrating with ChromaDB for enhanced real-time QA functionalities.
- Pioneered a multi-document upload feature, optimizing the platform for simultaneous uploads and processing, increasing system efficiency. Utilized an in-house compute platform.
- Tech: TypeScript, Next.js, Reactjs, Python, Node.js, OCR, Dynamic API routing, AWS- Fargate, ECS, Amazon DocDB.
- **mChat Extension:** Developed the mChat Chrome Extension, Implemented versatile QA features, including browser QA, selected text QA, and screenshot QA, enabling dynamic interaction with real time web content.
- Tech: TypeScript, React, Chrome Extension APIs, Open AI, Claude SDKs.
- **mChat 2.0 platform:** Developed a robust backend service, integrating multi modal LLMs such as OpenAI and Anthropic's Claude models, and designed scalable RESTful APIs documented with Swagger to enhance interactivity and usability.
- Tech: NestJS, Nodejs, TypeScript, Pulumi, AWS S3, ECS, NGINX, Docker, Bedrock

**Amazon** - Software Development Engineer | Seattle, USA June 2022 - May 2023

- Developed a customer-centric Amazon search recommendation widgets that enabled intuitive browsing based on publisher, price, logical groupings across all regions and platforms, handled millions of customers seamlessly.
- Implemented RESTful APIs, cloud deployment strategies to integrate with Amazon's existing infrastructure to optimize data processing using CI/CD pipelines and launched on Amazon search page.
- Developed dashboards, alarm stacks, glue jobs using AWS Lambda to monitor performance of the model. Worked on auto scaling of AWS EC2 hosts when there is increase in traffic on the servers, resulted in a 30% reduction in response time during peak traffic ensuring smooth user experience for millions of users.
- Tech: JAVA, Python, Javascript, Typescript, React, AWS tech, DynamoDB.

**Tata Consultancy Services** - Software Engineer | Hyd,India Aug 2017 - Dec 2020

- **Bank of America:** Developed and maintained high scalable Banking account management system to manage transactions, loans, bill payments resulting in 10% reduction in operation costs. Integrated Apache kafka for real time data streaming.
- Tech: Java , Javascript, Spring, Apache Kafka, MySQL, Log4j, Kubernetes.
- **Insurance:** As part of TCS digital, Led a team to design and develop join membership and monthly payment plan features for an insurance company integrating third party APIs, reduced processing time by 40%.
- Tech: Java, Spring, Angular, PostgreSQL, REST APIs.

## PERSONAL PROJECTS

### Cross Lingual Twitter search System

- Developed an end to end information retrieval system for dissecting twitter data to crawl tweets from twitter, index them and then build a web UI.
- Tech: Python, JAVA, JavaScript, NLTK, AWS, LDA, JSX

### Automatic Speech Recognition System

- Designed a speech recognition system using deep neural network to recognize text from audio clips and deployed with Docker as a Flask API on Amazon AWS.
- Python, TensorFlow, MFCC, CNN, CTC, RNN, Flask, AWS, scikit-learn.

## HONORS & AWARDS

**Digital MBR Recognition** - Moderna

- Honored for symbol of Innovation at Moderna for successfully launching mChat.

**Employee of the Quarter** - TCS

- Received for excellent contribution and defect free release.