

Anvitha Chegu Ashokkumar

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EDUCATION

University of Southern California, Los Angeles, USA.

Aug 2022-Present

Master of Science, Computer Science

GPA: 3.6/4.0

Coursework: Analysis of Algorithms, Web Technologies, Database Management System, Multimedia System Design

Dayananda Sagar College of Engineering, Bangalore, India.

Aug 2016-Jul 2020

Bachelor of Engineering, Computer Science & Engineering

GPA: 9.45/10.0

TECHNICAL SKILLS

- **Languages:** Python, JavaScript, TypeScript, Java, C
- **Database Technologies:** MongoDB, Firebase, MySQL, NoSQL, Redis, Elastic Search, SQL Server
- **Web Technologies:** React.js, Node.js, Next.js, Redux, AngularJS, Django, Spring Boot, Flask, jQuery, Ajax, PyTest
- **Cloud Platforms:** Amazon Web Services (AWS), Microsoft Azure, Google Cloud Platform (GCP)
- **Miscellaneous:** Git, Kafka, REST, SOAP, Docker, Kubernetes, Kibana, Cassandra, Machine Learning.

WORK EXPERIENCE

Graduate Research Assistant - USC Annenberg School of Communication and Journalism

Jan 2023-Present

- Built a **NextJS web application** featured in Good Morning America for USC Annenberg Inclusion Initiative depicting diversity in Oscars. Handled the **deployment and monitoring** of the application using **AWS ECS and CloudWatch**.
- Evaluated charting libraries and **implemented 25 statistical charts** for trend display by integrating libraries like **Nivo** and **React-chartjs2**.

Software Engineer - Perfios Software Solutions

Jul 2020-Jul 2022

- Contributed to design and development of **Mediclaime Insurance Tech's microservices architecture**, by incorporating **caching of configuration through Redis** for improved responsiveness, leveraging **Spring state machines** for **transaction life-cycle management** and **Kafka** for **asynchronous processing** of transactions, resulting in a 43% performance increase compared to the monolith architecture.
- Built a **standalone web application using SpringBoot** as part of an OCR pipeline to present structured extracted data to the Data Processing team to alleviate the effort spent in manually verifying scanned medical documents.
- Developed end-to-end features for self-onboarding of new organizations onto the **Cross Analysis Application** using **ReactJS** and **Spring Boot** and thereby **reducing the onboarding time by 35%** compared to manual methods.
- Constructed 8-10 **graphical dashboards** using **Elastic Search** and **Kibana** for overall product performance, efficiency analysis, and monitoring of machine learning models integrated in the product.

Software Intern - Perfios Software Solutions - Spring, MySQL, React

Jan 2020-Apr 2020

- Developed an end-to-end OCR pipeline using **Kafka, Spring Boot, ReactJS, OCR libraries and Minio** for object storage for distributed and asynchronous processing of bank statements, salary slips and medical documents for handling manual insurance claims.
- **Evaluated and integrated Abby and Tesseract OCR Engines** to **extract structured data** from documents and images, with an accuracy of 97% on insurance claim documents, to streamline manual data filling by agents.

ACADEMIC PROJECTS

Semantic Search Engine for Research Papers - Python, Sentence Transformers, PyTorch, FAISS

Feb 2023-May 2023

- Created a **Bert-Base-Uncased** sentence transformer model, pre-training it on **TSDAE** task on a dataset of **1 million research paper abstracts**, resulting in a domain specific model to compute embeddings for symmetric search.
- Utilized **FAISS** for **in-memory indexing** of research paper abstract embeddings for **approximate nearest neighbor search**, resulting in a **70% reduction in search time** compared to direct search on the entire embeddings corpus.

Distributed and Scalable E-Commerce application - Spring Boot, Kafka, AWS, Elasticsearch, Grafana

Oct 2022-Nov 2022

- Implemented scalable e-commerce application using to develop 4 services, with **Eureka for service discovery** and independent load balancing while ensuring fault-tolerant synchronous communication. Leveraged **Keycloak** for secure authentication, ensuring authorized access to the microservices cluster through the **API gateway**.
- Integrated Kafka to enable event-driven processing for the notification service. Implemented monitoring, logging and visualization using **Kibana, Elasticsearch, Prometheus, and Grafana**. Deployed the application to AWS ECS using **dockerization**.

Group Video and Audio Chat Application – Python, Django, WebRTC, Redis

Aug 2022-Oct 2022

- Utilized Django Channels in conjunction with WebRTC for end-to-end encrypted peer-to-peer communication for video conferencing. Redis as datastore to handle WebSocket requests for bidirectional communication.
- Integrated Firebase for user registration, authentication and storage of user profiles, call history, chat data, for improved user experience and accessibility.

AWARDS AND HONORS

- 1st Runner up among 52 teams in Actions on Google Hackathon. Created a chatbot to help Indian farmers to better manage crops and plan for planting and harvest season.

Oct 2019