



Sanjeeth Boddinagula

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CAREER OBJECTIVE

Dedicated software engineer proficient in Python, Kotlin and Java, with expertise in web development frameworks such as Spring and FastAPI. Eager to contribute technical acumen and innovative problem-solving skills to architect and develop high-quality software solutions, optimizing performance and user experience.

SKILLS

PROGRAMMING • Python • Kotlin • Java • Golang • Typescript **WEB** • REST • gRPC
FRAMEWORKS • FastAPI • Spring • Pytorch • Keras **TOOLS** • Postman • Docker • Git **CLOUD** • AWS

EXPERIENCE

WAYNE STATE UNIVERSITY | RESEARCH SOFTWARE ENGINEER

May 2023 – Present | Detroit, Michigan | Full-time | Remote

Developing Basil, a tool for semi-automatic containerization, deployment, and execution of applications and workflows on cloud computing and supercomputing platforms.

- **Technologies:** Java, Spring, Python, Flask, Docker, Singularity, MySQL
- Developed the backend service using Java and the Spring framework. Employed JSP for the UI.
- Created a Python Flask server to manage build and containerization requests.
- Implemented wetty, a web-based terminal, to offer users a terminal interface for submitting build and containerization requests.

CENTER OF PROFESSIONAL EXCELLENCE (CPE) @ UTSA | GRADUATE RESEARCH ASSISTANT | PART-TIME

Jan 2023 – May 2023 | San Antonio, TX

- Created and analyzed surveys to understand the ROI of EMBA program.
- Explored student perspectives through interviews on elective course preferences.
- Reached out to multiple room booking and management platforms to rent the free space available in the CPE.
- Scraped contact list of Director level employees based of San Antonio.

CS DEPARTMENT @ UTSA | GRADER | PART-TIME

Aug 2022 – Dec 2022 | San Antonio, TX

- Worked as a grader for the Database Systems course for undergraduate students.

SWIGGY | SOFTWARE DEVELOPMENT ENGINEER - 2

Feb 2022 – Aug 2022 | Bengaluru, India

I worked within the Payments team, overseeing backend services responsible for managing payments, refunds, cashbacks, and related functions.

Project: Bulk credit optimization [Apr'22 - Aug'22]

- **Scope:** Bulk credit is responsible to credit amount in selected list of users' wallet. The existing bulk credit api call is synchronous and gets timed out when called for more than 50+ records. I have optimized this flow for 2000+ credits by strategically partitioning it into list, each containing 100 Credit API requests to streamline operations.
- **Technologies:** Golang, gRPC, AWS S3, AWS SQS,
- Led the design process from conceptualization to implementation, including both high-level architecture and detailed technical specifications.
- Utilized Go routines for continuous queue monitoring, optimizing resource utilization and reducing long-polling costs.
- Implemented safety measures to ensure data integrity and automatic retries in case of issues, utilizing Go for fault-tolerant design.
- Improved system reliability by refining the auditing and file generation processes, employing AWS S3 (Simple Storage Service) for data storage.
- Optimized data handling and kept systems clean by removing processed data, leveraging Go and AWS SQS for efficient data handling and management.

AMAZON | SOFTWARE ENGINEER

Sept 2020 – Feb 2022 | Bengaluru, India

I worked in the Physical Retail Inventory Management and Supply Chain (PRIMS) organization. Our team oversees tools and dashboards utilized by store associates for Ordering and Receiving Transshipment, Purchase Orders, Small Parcels, etc. Additionally, we manage backend services that respond to requests generated by these tools and dashboards.

Project: HELIOS [Nov'21 - Feb'22]

- **Scope:** Providing a dashboard for store managers to configure and receive SLA.
- Developed high-level project designs by creating UML Sequence diagrams and Architecture diagrams.
- Established AWS VPC and configured security groups.
- Organized DynamoDB tables for storing configuration data using AWS CDK.
- Implemented lambda functions for writing and reading configuration data in DynamoDB.
- Established an SNS topic for publishing data utilized by downstream services.

Project: NAWS MIGRATION [May'21 - Oct'21]

- **Problem:** Prior to the NAWS migration campaign, all services were hosted in a single AWS account, leading to issues with IP space depletion.
- **Scope:** Transitioning our services from a monolithic AWS account setup to separate AWS accounts.
- Creating pipelines for code and infrastructure deployment.
- Establishing VPCs and configuring security groups.
- Establishing private links with dependent services.
- Exposing endpoints to facilitate client connections.
- Implementing authentication and authorization mechanisms.
- Configuring monitors and alarms for system health monitoring.

Project: ARIES & UV [Dec'20 - Mar'21]

- **Scope:** Within the ARIES & UV project, new stores were established in countries like England, Germany, etc. To enable associates to utilize the tools and dashboards, language localization was implemented.
- Compiled a list of static strings displayed and facilitated their translation through Amazon String Translation (AST).
- Integrated the Angular-based web application with the Katal Localisation Framework, enabling the download and loading of translation files from AST.
- Utilized the i18n library to dynamically replace placeholders with translated strings during runtime.
- Modified shared libraries responsible for string generation, ensuring these changes didn't disrupt other tools' functionalities.

Other tasks and Responsibilities

- On-call: Reducing oncall load by fixing recurring patterns.
- OE: Integrating with SmartTTBots to get related tt links and other data in ticket correspondence.
- Team: Helping new joiners quickly ramp up on tools and services.

MIHUP | SOFTWARE ENGINEER

Jun 2019 – Dec 2019 | Kolkata, India

Accel-backed startup offers virtual assistant, text and speech processing services for vernacular languages.

- Performed data cleaning, data visualization on datasets of multiple languages.
- Written python scripts to make data generation effortless.
- Trained ML models for sentiment analysis, intent detection and language translation.
- Made data parsers to parse the incoming data to the detection system.

PERSONAL PROJECTS

PET WORLD | Nov 2022 – Jan 2023

- Pet World is a social media and grooming platform for pets.
- **Technologies:** Python, FastAPI, Docker, Docker Compose, NGINX, ReactJS, MongoDB, Neo4J
- Developed the web application using React JS and Material UI.
- Implemented the backend using a microservices architecture.
- Created authentication, profile, graph, post, and feed microservices using Python and FastAPI.
- Utilized JWT tokens and the bcrypt password hashing technique for user authentication.
- Employed the Neo4J database to store user-follow relationships.
- Utilized MongoDB to store other information.
- Configured NGINX server as a reverse proxy/api gateway for the backend.

MINIGPT | Apr 2023 – Apr 2023

- **Technologies:** Python, PyTorch
- Built a GPT language model from scratch using tiny Shakespeare dataset.

OCR AND TRANSLITERATION OF INDIC LANGUAGES | Jan 2022 – Feb 2022

- **Problem:** Difficulty reading foreign language (Hindi) text on display boards.
- **Solution:** Developed a model to superimpose transliterated English text over Hindi text.
- **Technologies:** Python and PyTorch
- Trained a YOLOv5 model to detect text bounding boxes in images.
- Developed an encoder-decoder CRNN model to convert cropped images to text. Utilized a pre-trained VGG19 network as the encoder and GRU cells as the decoder.
- Trained a sequence-to-sequence model for Hindi-to-English text conversion using GRU cells for both encoder and decoder.
- Sourced the dataset through manual image labeling and employed image augmentation techniques to create additional images.

SENTIMENT ANALYSIS OF AMAZON REVIEWS | Oct 2018 – Jan 2019

- **Technologies:** Python, Scikit-learn, Matplotlib, Keras.
- Developed a machine learning system using Python and machine learning libraries to categorize customer reviews on various food products on Amazon into positive and negative sentiments.
- Utilized f1-score and roc-auc-score as performance metrics.
- Implemented Naive Bayes as the baseline model, achieving an f1-score of 0.89 and a roc-auc-score of 0.87 on the test dataset.
- Achieved the highest f1-score of 0.932 and roc-auc-score of 0.958 on the test dataset using an XGBoost model with tf-idf featurization.

AREAS OF INTEREST

• Distributed Systems • Deep Learning • Explainable AI (XAI) • Software Engineering • Web Development

LINKS

• Github:// [sanjeethboddi](#) • LinkedIn:// [sanjeethboddi](#) • StackOverflow:// [sanjeethboddi](#)

EDUCATION

THE UNIVERSITY OF TEXAS AT SAN ANTONIO

M.S. IN COMPUTER SCIENCE

GPA: 3.90

NATIONAL INSTITUTE OF TECHNOLOGY SILCHAR

B.TECH. IN COMPUTER SCIENCE AND ENGINEERING