Harish Kumar Manepalli

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EXPERIENCE

Fidelity Investments
Jul 2018 – Aug 2022 (4 years)

Software Engineer | Full stack development   Bengaluru, India

Tech Stack: *Java, Spring boot, ReactJS, Angular, NodeJS, MySQL, AWS, Kafka, Kubernetes etc.*

- Gained over 4 years of experience in: writing clean and scalable code; developing front-end and back-end features for large-scale applications following CI/CD and Agile methodologies; working with business partners to gather project requirements, conducting peer code reviews.
- Reduced the business facing admin home page initial load time from 80 seconds to less than 20 by implementing Lazy Loading technique, which renders only the essential subject area level data and defers the reminder of the data on Infinite scrolling
- Implemented a Python Parser to extract trade information from employees' quarterly report PDFs for checking and enforcing employee compliance. This has helped in streamlining a manual process which was estimated to save the organization a 2 million dollars
- Conceptualized and built a decision tree chat bot with python and word2vec vectorizer. This assisted employees in finding appropriate requests and minimizing erroneous request, decreasing average ticket volume for backend manual processing team by 15%.
- Devised a solution to automate request queue ticket distribution using Java & (Microsoft Azure) active roles and scheduled a Jenkins job which processes around 1000 requests everyday, saving the company at least 2000 hours of manual effort each year
- Created a Naive Bayes Classifier for sentiment analysis which runs on customer feedback's allowing business owners to get comprehensive view about experience of over 10 million customers. insights of customer experience across various services is monitored on KPI Dashboard.
- Migrated our legacy systems to Microsoft Power Apps, where I developed canvas applications for employee facing pages and model-driven applications for admin facing sites, making use of the best coding standards in a compressed time frame scenario
- Collaborated with 10 developers to redesign an Application from Monolith architecture to various loosely coupled micro-services architecture and used Kubernetes to deploy these services to the AWS cloud to increase reliability, scalability, robustness, and security of our systems
- Engaged in production support rotations where I have handled on high priority tickets which involved: implementing ad-hoc software features, debugging and fixing batch process failures, extracting critical user data through direct database queries, monitoring system logs for anomalies etc.

iB HUBS
May 2017 - Jul 2017 (2 months)

Software Engineer Intern | web apps development and mobile apps development   Hyderabad, India

Tech Stack: *React, React Native, Django, Flask*

- Developed a production-ready web and mobile applications akin to JIRA in just 8 weeks. The majority of my efforts were devoted to creating a responsive and inclusive user interfaces
- I used React Native to create the mobile app (iOS and Android) and React for the web application. This project presented significant challenges because the technologies were relatively new at the time, and there wasn't extensive online support available. Therefore, we heavily relied on the official documentation. Despite these hurdles, we managed to develop the entire application in just 8 weeks. Additionally, I deployed components to the npm repository, which received several hundred downloads.

SKILLS

Programming Languages: Java, C, C++, C#, Python, SQL, PHP, .Net, JavaScript, TypeScript, HTML, CSS
Technologies/framework: Spring, Spring Boot, Angular, React, React Native, NodeJS, Django, Flask, Amazon Web Services(AWS), RESTful APIs, Kafka, ArcGIS, Kubernetes, Junit, SOAP
Cloud & DevOps: Amazon Web Services (AWS), Jenkins, Kubernetes, uDeploy, GIT, JIRA
Databases: MySQL, PostgreSQL, MongoDB, Redis

EDUCATION

University of California, Riverside
Riverside, CA

Master of Science in Computer Science; CGPA - 3.9/4.0
Sept. 2022 – Mar 2024

Course Work: AI, Data Mining, Distributed Systems, Deep Learning, Machine Learning (ML), Information Retrieval etc.

National Institute of Technology, Tiruchirappalli
India

BTech. in Instrumentation and Control Engineering
Aug. 2014 – May 2018

PROJECTS

Topic Modeling
Apr 2023 - Jun 2023

- Analyzed different topic modeling models for research paper abstracts using the prominent methods: TF-IDF, BERT, LDA, BERT+LDA. The BERTopic model performed well in terms of coherence (0.65) and silhouette score (0.52), indicating strong semantic similarity among words in the topics, and well-separated topic clusters.

Hazard Free Navigation
Apr 2023 - Jun 2023

- Developed a web application that avoids crime hotspots and directs users through a safer path in SF City. Generated 1000 hotspots from the crime dataset using DB Clustering. Employed OSMnx to extract street network from OpenStreetMap and removed hotspot nodes, shortest path was calculated with A* Heuristic Algorithm

Breast Cancer Detection
Jan 2023 - Mar 2023

- Predicted if the cancer diagnosis is benign or malignant using KNN, everything built from scratch, with an accuracy of 0.952 and also used Multi Layer Perceptron for feature extraction which increased the accuracy to 0.963

Web Search Engine
Jan 2023 - Mar 2023

- Scraped 500MB sports articles. Used PyLucene to remove stop words and create an optimised index, and searched on this index with user query for relevant pages. Leveraged BERT to generate embeddings of the data, and the query embeddings. They were compared using cosine similarity to retrieve the most relevant data.

CryptGPU: Fast Privacy-Preserving Machine Learning
Jan 2023 - Mar 2023

- I tackled the critical issue of privacy in machine learning (ML) by significantly enhancing the efficiency of non-linear operations of privacy-preserving ML models. Traditional PPML approaches are notably slower (up to 1000x) than plaintext ML models, making them impractical for large-scale applications. This innovation not only improved the scalability and efficiency of PPML but also maintained the integrity and confidentiality of sensitive data, set

Data Analysis of Housing Prices in USA
Jan 2023 - Mar 2023

- Conducted data analysis on US housing prices using regression models to identify trends. For visualizations I did choropleth maps showing regional price variations, scatter plots illustrating correlations between variables, and time series graphs depicting price fluctuations over years.

OTHER EXPERIENCE

- Applied Large Language Models (LLMs), deep learning frameworks and libraries (PyTorch, TensorFlow) to develop ML models. Implemented transfer learning strategies, effective regularizers and Data augmentation strategies and attained state-of-the-art model accuracies of over 95% for a range of NLP and Computer Vision tasks
- Worked as a Teaching Assistant for Introduction to Statistics course (STAT010) at University of California Riverside for a couple quarters, where I have taught the concepts of probability, statistics, random variables and their implementation in R programming language to 90 undergraduate students