

# Harish Kumar Manepalli

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## EDUCATION

### University of California, Riverside

Riverside, CA

*Master of Science in Computer Science; CGPA - 3.9/4.0*

*Sept. 2022 – Mar 2024*

### National Institute of Technology, Tiruchirappalli

India

*BTech. in Instrumentation and Control Engineering*

*Aug. 2014 – May 2018*

## EXPERIENCE

### Fidelity Investments

Jul 2018 – Aug 2022

*Lead Full-stack developer | Full stack development*

*Bengaluru, India*

- Acquired expertise in system architecture, design patterns, and full-stack development for large-scale applications. Collaborated with product owners to gather project requirements, conducted peer code reviews, developed cross-platform, cloud-based applications and complex trading infrastructure. Specialized in RESTful web services and CI/CD pipelines, TDD development, troubleshooting, and writing clean, scalable, production-ready code, contributing to high-quality projects utilized by customers across the globe.
- Implemented Lazy Loading on a business facing admin home page bringing the page load time from 1.2 minutes to less than 20 seconds by rendering just subject area level data and confining the remainder data to demand only
- Developed various loosely coupled software components and microservices and used Kubernetes to deploy these services to the AWS cloud to increase performance, reliability, scalability, robustness, and security of our systems
- Implemented a Python text extractor, based on Business Insights, to extract trade information from employees' quarterly report PDFs, thereby streamlining a manual process and saving the organization a few million dollars
- Spearheaded a chatbot project in which I designed and constructed a chatbot that used a Natural Language Processing (NLP) package to assist users in finding appropriate requests and minimizing erroneous request, as a result, decreasing average ticket volume by 15%
- Automated the Request Queue ticketing problems using Java and scheduled Jenkins job, saving the company at least 2000 hours of manual effort each year

### iB HUBS

May 2017 - Jul 2017

*Software Engineer Intern | web development and mobile development*

*Hyderabad, India*

- Developed a production-ready web and mobile applications (React Native) akin to JIRA in just 8 weeks. The majority of my efforts were devoted to creating a responsive and inclusive user interfaces

## 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 and silhouette scores, indicating strong semantic similarity among words in the topics, and well-separated topic clusters.

### Web Search Engine

Jan 2023 - Mar 2023

- Scraped 500MB of sports articles. Used PyLucene to remove stop words and create an optimised index, which I then used to fetch relevant data based on user searches. utilised BERT to generate embeddings, then used the query embeddings to compare and retrieve the most relevant data.

### 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

### Designed and built a Web Application, *NITTSTER*

Dec 2017 - Feb 2018

- Aggregates the lecture notes, video references, discussions, and materials to improve the students' learning experience

## SKILLS

**Programming Languages:** Java, C, C++, C#, Python, SQL, PHP, PL/SQL, JavaScript, TypeScript, HTML, CSS

**Technologies/framework:** Spring, Spring Boot, Angular, React, React Native, AWS, Jenkins, Docker, uDeploy, Eclipse, Visual Studio Code, NodeJS, JIRA, Git, REST APIs

**Course Work:** Artificial Intelligence (AI), Big Data, Data Mining Techniques, Distributed Systems, Deep Learning, Machine Learning (ML), Information Retrieval, Scientific Computing, Compiler Construction, data structures, algorithms

## OTHER EXPERIENCE

- Worked with Large Language Models (LLMs), deep learning frameworks and libraries (PyTorch, TensorFlow) to develop machine learning techniques. Implemented transfer learning strategies, effective regularizers and Data augmentation strategies to attain state-of-the-art model accuracies for a range of NLP and Computer Vision tasks