KRISHNA PUCHALAPALLI

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EDUCATION

University at Buffalo,The State University of New York — **Buffalo, NY**
Master of Science, Computer Science. — Jan 2022 - Dec 2023

New Horizon College of Engineering — **Bangalore, IN**
Bachelor of Engineering, Computer Science. — Aug 2016 - Jul 2020

SUMMARY

- Software Development Engineer with over **2.5** years of experience in building **large-scale distributed systems** using **Java**, **Spring**, and **microservices**. Proficient in **AWS** services including **DynamoDB**, **Lambda**, and **S3**, with expertise in designing scalable **RESTful APIs**, highly available services, and optimizing system performance.
- Developing accessible web applications using **JavaScript frameworks** (Angular, React, Vue) and tools (Node.js, TypeScript), adhering to WCAG guidelines, with expertise in **UI design, system integrations and testing** (Jest, Playwright).
- Proficient in **SQL and NoSQL** databases, specializing in database design, SQL development for structured and unstructured data analysis.
- Orchestrated containerization with **Kubernetes** to enhance microservices and **Jenkins** for CI/CD pipelines, managing data with **Hadoop and MongoDB utilizing Java, Apache Spark and Kafka**.

TECHNICAL SKILLS

Languages and Web Technologies: Java, Python, HTML, CSS, JavaScript, TypeScript, SQL, NoSQL, Node.js, Angular, React, Vue
Tools and Frameworks: Spring Boot, Flask, Django, Kubernetes, Docker, Jenkins, JIRA, Git, Hadoop, PiSpark, Jupyter Notebook, ML
Cloud: AWS, Azure
Certifications: AWS Developer - Associate, Software Engineer, Intro to Java, JavaScript, SQL & C

WORK EXPERIENCE / INTERNSHIP

Mansha Software India Pvt Ltd — **Hyderabad, IN**
Software Engineer — Jan 2020 - Dec 2021

Integrated Systems and Data solutions:

- Led development of a **distributed**, **web-based system** using **Java**, **Spring Boot**, and **Docker** on **AWS**, focusing on **high availability** & **scalability**, resulting in a 30% reduction in load time. Optimized data processing pipelines using **DynamoDB** to handle over 1 million records daily.
- Engineered data processing and **ETL pipeline** leveraging the **Hadoop** framework, optimizing the handling of over 1 million records daily.
- Increased web page views by 150% by integrating a web-scraping pipeline using **Java** and **Jsoup**, connected to **ReactJS** and **Material-UI** frontend, enhancing user engagement.
- Leveraged knowledge of **SAP ECC** and **IBP** modules within logistic processes and reduced processing time by 20 hours weekly. Utilized **Python** for data manipulation and analysis within ETL processes enhancing data processing efficiency.

Cloud-Native Data Analytics and Predictive Modeling Platform:

- Formulated a transformative cloud-native analysis system integrating Java-based microservices with **Spring Boot** for standardized data suitable for RESTful API by enhancing operational efficiency by 10%.
- Built predictive modeling using **Deep Reinforcement** algorithms interfacing with Java REST services reducing prediction time by 15%.
- Managed the complete **SDLC** integrating **DevOps**, **Kubernetes**, and **AWS** infrastructure-as-code using **CloudFormation** and **DynamoDB**, achieving a 20% faster deployment time and improved scalability for cloud-native applications.

Gurutu — **Bangalore, IN**
Application Design Intern — Jun 2018 - Jul 2018

- Crafted responsive layouts for itinerary management and budget tracking on **Android** minimizing input time by 2 minutes per session.
- Created a web application interface using **Java Server Faces (JSF), Servlets**, and **JAX-RS** to build data structures, establish database linkages, and implement Java-based web components to reduce build time by 25 hours per cycle.
- Deployed **RESTful APIs** to enhance user interactions; integration with database leading to improved query performance and a reduction in response time by over 3 seconds using **Flask** for building light weight APIs.

RESEARCH / ACADEMIC PROJECTS

Chatbot Search System — Jan 2023 - May 2023

- Optimized Reddit's REST API data indexing in **SOLR**, enhanced search accuracy with **BM25** and language modeling techniques. A custom **DisMax Parser** plugin translated queries using **NLP**.
- Integrated **Naive Bayes classifier** to distinguish between generic queries with a higher accuracy rate of 85%.
- Hosted **Flask** based chatbot interface on cloud platform and improvised mAP by 7% based on user feedback.

Bank Loan Status Prediction — Aug 2022 - Dec 2022

- Predicted loan repayment using features such as credit score, annual income, employment history and economic conditions achieving an accuracy rate of 85%.
- Applied algorithms (**Logistic Regression, KNN, Decision Tree**) utilizing principles of probability and decision hierarchies.
- Streamlined data **pre-processing, model tuning** and **performance evaluation**, achieving a 30% reduction in prediction time.

Distributed Key-Value Store Simulation — Jan 2022 - Aug 2022

- Built a **distributed key-value store** using a **Dynamo-inspired architecture** for horizontal **scaling** and **high availability**.
- Implemented **consistent hashing** and **replication** to ensure **data availability** and **fault tolerance**.
- Achieved **sub-50ms latency** for **high throughput transactions** by simulating a **DynamoDB-like distributed database**.