

# VAMSHI KRISHNA MADHAVAN

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## Objective

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A dedicated and adaptable professional with 3 years of software engineering experience and a master's in data science, adept at developing robust solutions and applying data-driven methodologies to solve complex problems. Passionate about creating impactful solutions and collaborating within dynamic teams to drive innovation and align with organizational goals.

## Experience

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**Software Engineer**, Experian – Hyderabad, India April 2021 – January 2024

- Spearheaded the Verification Batch project, producing Verification Reports to enterprise clients and boosting application TPS by 700% through design and implementation of a Batch Microservice powered by Spring Boot, Spring Batch, and AWS services (S3, EC2, ECS).
- Led a team of 6 engineers to execute migration of a Batch-Based Microservice to Big Data architecture, achieving a 10x performance improvement. Initiated and developed a proof of concept (PoC) for the Big Data architecture, was adopted as foundation for final implementation. Orchestrated the CensusHub project, a secure data warehouse processing millions of records daily using Java, Spring Framework, Airflow, Redis, and AWS services (S3, EC2, EMR).

**Software Engineer Intern**, Cognitree – Bengaluru, India December 2020 – April 2021

- Gained in-depth knowledge of the Software Development Life Cycle (SDLC) and High-Level Design through hands-on experience with various frameworks, libraries, and APIs.

## Projects

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- **VocalVerse** | *Python, NLP*

Created and published a PyPI package offering text translation, speech synthesis, and audio transcription incorporating Python, OpenAI Whisper, and Google Text-to-Speech.

- **Multilingual AI Chatbot with Text and Voice Interaction** | *Python, NLP, Machine Learning*

Engineered a multilingual chatbot integrating LLaMA3, OpenAI, and advanced Python libraries, supporting seamless text and voice interactions.

- **Roma Mart** | *HTML, CSS, JavaScript, jQuery, PHP, MYSQL*

Delivered an interactive retail store management system as a freelance project, deploying real-time inventory and sales management features to enhance operational workflows.

- **Time-Series Mining Approach for Agriculture Area Detection** | *Python, Machine Learning*

Designed a framework utilizing Active Learning (AL) to analyze seasonal time-series data, improving agricultural oversight and precision crop monitoring.

- **Analysis of Clickstream Data for Online Shopping** | *Python, Machine Learning*

Conducted a comprehensive machine learning analysis of clickstream data, evaluating consumer behavior patterns across Europe to optimize e-commerce strategies.

- **Hospital Management System** | *HTML, CSS, JavaScript, jQuery, JSP, MYSQL*

Built a feature-rich CRUD application for hospital management, integrating modules for patients, doctors, and administrators to boost operational efficiency.

- **URL Shorten Service** | *HTML, CSS, JavaScript, jQuery, Spring Boot, EHCACHE, MYSQL*

Designed and implemented a scalable URL shortening service with high availability, utilizing Ehcache for efficient caching and URL management. Vintage Knowledge | *HTML, CSS, JavaScript, jQuery*

- **Vintage Knowledge** | *HTML, CSS, JavaScript, jQuery*

Crafted an educational website for learning 'C' programming. Offered a structured, user-friendly interface for comprehensive coding tutorials.

## Skills

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**Programming Languages:** C, Java, Python, SQL, JSP, and PHP

**Frameworks and Libraries:**

- *Web and Application Frameworks:* Restful Web Services, GraphQL, Spring Boot, Spring Batch, Spring Data JPA, Spring JDBC, Flask, Streamlit.
- *Data Processing:* Apache Airflow, Apache Spark, PySpark, Apache Kafka.
- *Machine Learning and Data Science:* TensorFlow, Keras, PyTorch, NumPy, Pandas, scikit-learn.

**Cloud and Infrastructure:** *Amazon Web Services (AWS)* - S3, EC2, ECS, EBS, EFS, EMR, STS, ELB, ASG, Lambda, DynamoDB, RDS, SQS, SNS, Sagemaker, CodeDeploy, CloudWatch

**Caching:** Redis, Memcache, Ehcache

**Databases:** MySQL, PostgreSQL

**Tools:** Git, Bitbucket, JIRA, Jenkins

## Positions of Responsibility

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- **Hackathon Coordinator:** Initiated and organized a college-wide coding bootcamp and hackathon, engaging 1,000+ participants and fostering collaboration through technical challenges.
- **Community Contributor:** Contributed to open-source projects, enhancing collaboration and coding skills within global developer communities.

## Certifications & Achievements

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- AWS Certified Solutions Architect – Associate (Amazon Web Services) June 2024
- Achieved Google Cloud's "Architecting with Google Computer Engine" Specialization, showcasing expertise in cloud architecture.
- Certified by HackerRank and Udemy in Java, Python, and Apache Airflow, illustrating mastery of cutting-edge technologies.
- Certified in C and Data Structures through the QEEE program by IIT-Madras, highlighting academic excellence.
- Recognized as a Semi-Finalist in TechGig Code Gladiators'2020 competition, outperforming 250k participants.
- Engaged in immersive learning experiences with industry giants such as JP Morgan and Goldman Sachs through Virtual Experience Programs.
- Involved in open-source projects during HacktoberFest 2019 and 2022, emphasizing dedication to community engagement and skill development.
- Recognized with the Experian Spot Award for fostering collaboration with product stakeholders and driving impactful outcomes.

## Education

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**University of Houston**, Master of Science in Data Science May 2025

- GPA: 3.76/4.0.
- **Relevant Coursework:** Machine Learning, Data Science, Data Mining, Natural Language Processing, Data Analysis and Visualization, Data Engineering, Database Management Tools.

**Malla Reddy Engineering College**, Bachelor of Technology in Computer Science July 2021

- GPA: 9.36/10.0.
- **Relevant Coursework:** Algorithms, Data Structures, Operating Systems, Databases, Machine Learning, Data Analysis, Computer Networks, and Software Engineering.