

Vamshidhar Morusu

Cloud, BigData, IoT, Embedded Systems



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SKILLS

Programming

C, Java, Scala, Python, R, Swift

Cloud and Containerisation

Microsoft Azure, AWS, GCP, Kubernetes, Docker

BigData and Apache Projects

Spark, Hive, Kafka, Airflow, YARN, Zookeeper, Sqoop,

Kernel and Device Drivers

Kernel Porting to Intel and ARM processors, SD/SDIO/MMC drivers, USB drivers, TouchPad drivers, Firmware and Bootloaders.

CI/CD and Build Tools

GitLab, GitHub, Jenkins, Cloudbees, Autosys, Maven, Gradle, SBT, make

Databases

Postgres, Snowflake, Cassandra, Hive, MySQL, Oracle, MS SQL

Web Technologies

Spring, Hibernate, JSP, JavaScript, Microservices.

Mobile Technologies

Android, iOS, MeeGo, Native and Hybrid(HTML5) mobile application.

Project Management

Agile, Waterfall, Kanban, Risk management, RFP, RFC

ABOUT ME

I have over a decade of experience in cloud computing, data engineering, and software development, having worked across industries such as banking, retail, and home automation. My roles have ranged from Senior Software Developer to Technology Architect, with extensive expertise in building scalable data processing platforms, implementing big data solutions, and driving cloud migration strategies. I possess advanced skills in open-source tools like Spark, Kafka, Hadoop, and Airflow, alongside proficiency in developing APIs and performance tuning frameworks. My professional journey has involved delivering end-to-end system integrations, streamlining ETL processes on cloud infrastructures like AWS and Azure, and consistently enhancing frameworks for better security and performance. I hold a Master's degree in Data Analytics from Boston University as well as a Bachelor's degree in Computer Applications from Periyar University.

My career objective is to lead cutting-edge cloud projects that optimize enterprise data workflows while solving real-world challenges through data-driven solutions. With several significant contributions including vulnerability fixes for open-source projects and supporting enterprise data access structures, I aim to bring innovative solutions to the next phase of my career.

PROFESSIONAL EXPERIENCE

2020
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Till
Date

US Bank

AVP - Senior Software Engineer

- Engineered an automated framework for Customer360 platform artifacts, reducing manual effort by 75% and improving accuracy by 95%
- Spearheaded critical feature enhancements and security upgrades across multiple versions of DDA Inquiry web tool.
- Implemented a robust Batch Data Processing framework integrated with Azure Synapse Analytics, enabling efficient handling of large-scale data workloads and leveraging cloud-based analytics capabilities²⁷. This solution optimizes resource utilization, enhances scalability, and supports complex ETL processes while seamlessly connecting with Azure Synapse's SQL pools and Spark engines for comprehensive data transformation and analysis
- Developed proof-of-concept projects demonstrating RESTful API integration with Customer360 data and real-time data ingestion, reducing data latency by 40%
- Contributed to open-source projects (Hadoop, Jackson, Spark), resolving critical vulnerabilities in Spark, Airflow, and GitSync images
- Orchestrated GitLab pipelines, CI/CD workflows, and repositories for multiple projects, improving deployment efficiency by 60%
- Leveraged expertise in Java, Python, SQL, RESTful APIs, and big data technologies to drive innovation and efficiency in data management solutions

EDUCATION

Master of Science – Data Analytics

Boston University
2023

Bachelor of Science

Periyar University
2014

Diploma in Electronics & Communication Engineering

Board of Technical Education , India.
2000

AWARDS

BestIn US(US Bank)- Bronze, Silver, Gold.
Quality Contributor, Spot award (iWave)
Best Team Presenter (Syntel)

CERTIFICATIONS

AZ900, ISC2 CC, Databricks AI

2016

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2020

Visual Consultants Inc.

Technical Architect

Clients - Neiman Marcus, Lutron

- Spearheaded design and implementation of customer-facing IoT software, integrating mobile apps with embedded devices and cloud systems. Improved mobile app performance by reducing load time by 40% and increasing user adoption by 25% through optimized cloud integration and intuitive UX design.
- Developed and maintained data pipelines for customer-centric data integration, generating UCIDs, product recommendations and personalization models consumed through APIs. Optimized EMR performance and UCID clustering, reducing data processing time by 30%.
- Led cloud migration efforts, automating scripts to transfer enterprise data to AWS Cloud with minimal downtime. Successfully delivered a major cloud migration project 3 weeks ahead of schedule, resulting in 20% cost savings.
- Developed a cloud-based PII hashing framework in PySpark for secure data delivery to the Data Science team. Implemented Airflow DAGs and EMR PySpark workflows for feed ingestion and complex business processing.
- Architected loosely coupled, resilient, and secure software systems, ensuring scalability and robustness.
- Provided technical leadership and mentorship, fostering innovation and continuous improvement within the development team.
- Conducted research on emerging technologies, focusing on IoT, cloud computing, and smart home/building advancements. Led a team that delivered a flagship IoT project 2 months ahead of schedule, resulting in a 15% increase in customer satisfaction.

2016

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2012

Synapse - Quest

Technical Manager

Client - Cisco Systems

- Lead advanced infrastructure software design and development using C/Python, collaborating with hardware teams to seamlessly integrate solutions and optimize performance.
- Architect and implement comprehensive networking solutions across all layers, leveraging expertise in C, Java, and scripting languages for diverse network equipment systems.
- Spearhead distributed platform and system software development, including board bring-up, device drivers, file systems, and kernel programming, showcasing deep Linux and network resource management knowledge.
- Drive platform development focusing on CPU/Memory Management/IO and Virtualization for embedded systems, while conducting thorough testing and debugging to ensure robust, reliable solutions.
- Oversee development of innovative network features and architectures, managing multiple projects in a fast-paced environment and demonstrating strong analytical and problem-solving skills.
- Provide technical leadership, mentoring junior developers and promoting best practices in C/Java programming and embedded platform development across the team.

2011

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2012

Syntel

Technical Architect

- Lead and manage development teams in creating cutting-edge mobile applications using HTML5, React Native, and native technologies (Swift for iOS, Kotlin/Java for Android).
- Architect robust mobile solutions, focusing on system integration, backend infrastructure, APIs while ensuring optimal performance, security, and scalability.
- Drive architectural decisions and provide strategic direction for mobile projects, implementing best practices in app security, data encryption, authentication, and performance optimization.
- Mentor and foster technical growth within engineering teams, promoting a collaborative culture and driving innovation in mobile application development.
- Manage RFP/RFC processes, coordinating proposal development, assembling teams, and ensuring high-quality submissions that align with project requirements and business objectives.

2007 iWave Systems Technologies

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Project Lead

2011

- Led core arm64 Linux Kernel team, maintaining upstream Linux port, reviewing code on public mailing lists, and upstreaming improvements for modern arm64 hardware performance.
- Expertise in Linux OS development, including internals, file systems, process management, memory management, and virtualization; proficient in kernel patching, debugging, and device driver development.
- Spearheaded hardware integration projects, including board bring-up from BSP, supporting various drivers (Touch, Wi-Fi, USB, SD, Ethernet, LCD), and Android porting onto Intel Atom (x86) platforms.
- Designed and implemented specialized drivers (SPO2, RFID reader) and integrated diverse modules (GPS, Card Reader, Signature Pad, Camera) for embedded systems.
- Drove CI/CD and process automation initiatives, enhancing development workflows and improving code quality across projects.
- Actively contributed to open-source projects, investigating and upstreaming support for new architecture features in the Linux kernel.

2003 MindStones Solutions

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Software Engineer

2007

- Engineered a gateway for managing semi-distributed wireless devices, enabling control of device-level features (storage, battery status, OTA firmware updates) and interconnected devices via WDM nodes. Integrated secure OTA protocols inspired by MDM best practices for remote device management.
- Implemented HeartBeat-based device discovery and shortest-path algorithms (e.g., Dijkstra/Floyd-Warshall) to minimize latency in device-to-device communication. Leveraged Java concurrency models for real-time parsing of discovery packets.
- Indus Mote Programming Language: Created a domain-specific language (DSL) for ubiquitous computing, prioritizing lightweight syntax and event-driven constructs. Integrated with Java via ANTLR for parsing and code generation.
- Built core logic using JDBC and MySQL to manage device metadata, optimizing queries with indexing and connection pooling. Designed schemas for device hierarchies, status histories, and firmware versions, ensuring ACID compliance.
- Combined JNI, C, and Java to interface with embedded hardware (Indus Mote), ensuring compatibility with Android/Linux systems.
- Applied IoT device lifecycle management principles (onboarding, configuration, OTA updates) aligned with Ubiquitous device frameworks.
- Prioritized low-latency algorithms and thread-safe JNI practices to meet real-time device management requirements.

2001 Flash Infotech Pvt Ltd

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Software Engineer

2002

- Develop and deliver comprehensive training programs on various software applications, programming languages (C, Java, Visual Basic), and systems, tailoring content to diverse audience needs and learning styles.
- Design and create engaging training materials including manuals, e-learning modules, and interactive tutorials, while continuously updating content to reflect latest software features and industry trends.
- Facilitate interactive hands-on technical working sessions, allowing participants to practice software applications in real-time. Guide learners through practical exercises, troubleshoot issues, and provide immediate feedback to reinforce learning and skill development.

2000 Jindal Stell & Power Ltd.

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Trainee

2001

- Participate in programming and modifying Programmable Logic Controller(PLC) for process automation and optimization using industry-standard software.
- Collaborate with cross-functional teams to integrate PLC systems with other plant control and data acquisition systems.
- Assist in documenting PLC programs, creating backups, and maintaining version control for critical control systems.