

Contact

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Top Skills

RESTful WebServices
Full-Stack Development
AngularJS

Languages

Telugu (Native or Bilingual)
Hindi (Professional Working)
English (Full Professional)

Certifications

MTA: Web Development Fundamentals
MCPS: Microsoft Certified Professional

Rajesh Kanakamedala

Senior Software Engineer at CNH Industrial | Architecting Robust Full Stack, Android, and Embedded Systems | Driving Innovation in Precision Agriculture Technology

Vijayawada, Andhra Pradesh, India

Summary

With over 10 years of experience architecting and developing software that bridges the gap between complex hardware and intuitive user experiences, I am passionate about building robust, scalable, and efficient technology solutions. My career has been defined by a unique blend of high-level application development and low-level systems programming, allowing me to thrive in environments where the digital and physical worlds intersect—from full-stack web platforms to the embedded Linux systems powering the next generation of precision agriculture.

My journey has equipped me with deep expertise across the entire software development lifecycle. I have led the development of feature-rich Android applications from scratch, implementing clean architecture patterns (MVP) and dependency injection (Dagger) to create maintainable and performant codebases. In the full-stack domain, I have designed and deployed responsive web applications using the MERN stack (Node.js, React) and built resilient RESTful APIs that serve as the backbone for complex data exchange.

What truly sets my experience apart is my work at the OS level. I have extensive, hands-on experience in Board Support Package (BSP) development, collaborating closely with hardware teams to ensure seamless software integration. This includes designing and implementing custom Linux daemons in C++ and Java to monitor and control IoT devices and vehicle systems, leveraging deep knowledge of IPC mechanisms and Linux kernel interfaces.

I am driven by solving complex challenges and am always seeking opportunities to leverage my diverse skill set to contribute to innovative projects. Let's connect to discuss how I can bring my expertise in full-stack, Android, and embedded systems development to your team.

Core Competencies & Technologies:

Languages: Java, Kotlin, C++, Python, JavaScript (ES6+), TypeScript, HTML5/CSS3, SQL, PHP

Frameworks & Libraries: Node.js, React, Next.js, Android SDK/NDK, Express.js, Dagger, RxJava, Retrofit, Unity 3D

Embedded & Systems: Embedded Linux, OS Level BSP, Linux Daemons, System Programming, CAN Protocol, ZMQ

Databases & Platforms: PostgreSQL, MySQL, Git, Jenkins, Docker, AWS, Gerrit

Methodologies: Agile/Scrum, Software Architecture, System Design, RESTful API Design, CI/CD, Test-Driven Development (TDD)

Experience

CNH Industrial

8 years 10 months

Senior Software Engineer

April 2023 - Present (2 years 8 months)

India

As a key contributor to the CNH Precision Farming Group, developed and maintained software for in-cab vehicle displays and Linux-based control units, directly impacting agricultural efficiency and yield.

Architected and delivered a new Android application from the ground up, implementing a scalable MVP & MVVM clean architecture, which became the foundational pattern for three subsequent projects.

Engineered robust Java and C++ daemons for embedded Linux devices to monitor and control mission-critical farming equipment via CAN Protocol, ensuring high reliability and real-time performance.

Developed and maintained native shared libraries (C++) for both Android (ARM) and Linux (x86) platforms, enabling high-performance, low-level hardware interactions.

Implemented JNI (Java Native Interface) bridges to integrate modern Java-based Android applications with legacy native C++ libraries, preserving critical business logic while modernizing the user interface.

Designed and built custom Android UI components and corresponding shadow classes for comprehensive Robolectric testing, achieving high code coverage and ensuring application stability across edge cases.

Led code reviews and evaluated product requirements within a large, multi-team Agile environment, utilizing Git, Gerrit, and Jenkins to maintain a robust continuous integration (CI) pipeline.

Delivered specialized Android and Linux applications communicating via ZMQ messaging, enabling distributed processing between the main display and a separate Linux "brain box."

Technologies Used: Java, Kotlin, C++, Android SDK/NDK, Embedded Linux, BSP, CAN Protocol, JNI, ZMQ, Git, Gerrit, Jenkins, Gradle, CMake, Agile, Scrum, Robolectric, MVVM Architecture.

Senior Embedded Software Developer L3
February 2017 - March 2023 (6 years 2 months)
Burr Ridge, Illinois, United States

Eagle Creek Software Services
Virtual Reality Developer
June 2016 - December 2016 (7 months)
United States

Designed and developed immersive Virtual Reality (VR) and Augmented Reality (AR) mobile applications to provide interactive product visualization experiences for retail customers.

Developed a flagship VR-based Android application using Unity 3D, Sketch Up, and Playcanvas, enabling users to virtually experience products before purchase.

Implemented advanced AR features using Vuforia 5, allowing users to visualize products live in their own space, which significantly increased user engagement metrics.

Engineered complex VR user interactions, including head tracking, stereo rendering, and custom UI controls (Fuse buttons) for platforms like Gear VR, Oculus, and Google Cardboard.

Built a custom OpenGL environment to render and animate 3D objects that responded to user touch inputs, creating a highly interactive and dynamic user experience.

Integrated the Google VR SDK and implemented asynchronous loading of 360-degree assets to ensure smooth performance and minimize load times on mobile devices.

Technologies Used: Unity 3D, Java, Android, VR, AR, Google VR SDK, Vuforia, OpenGL, Playcanvas, Sketch Up, Retrofit, Picasso, RxJava.

VoxVilla, LLC
Java Developer
May 2015 - April 2016 (1 year)
Albany, New York, United States

Served as a full-stack developer responsible for the end-to-end SDLC of a voice-based social networking application, from requirements gathering and architecture design to deployment and maintenance.

Delivered a complete, responsive front-end web application using Angular.js and Bootstrap, providing a modern user interface for the platform's web presence.

Developed the core back-end infrastructure using a Java-based stack, including Servlets, JSP, and the Struts Framework, to handle user authentication, voice memo storage, and real-time communication.

Designed and implemented RESTful API services to handle data exchange in JSON format between the web client and the server.

Managed the PostgreSQL database schema, developing and maintaining numerous stored procedures and triggers to ensure data integrity and optimize query performance.

Contributed to all phases of the SDLC, including requirements gathering, OOAD using UML, unit testing, debugging, and code reviews.

Technologies Used: Java, J2EE, Angular.js, Struts, JSP, Servlets, HTML, CSS, JavaScript, RESTful APIs, JSON, PostgreSQL, PgAdmin, JDBC, XML, Bootstrap.

Education

University at Albany, SUNY

Master of Science (MS), Computer Science · (2014 - 2016)

Gudlavalleru Engineering College, Seshadri Rao Knowledge Village,
Gudlavalleru, PIN-521356(CC-48)

Bachelor's degree, Computer Science · (2009 - 2013)