**BINDHUSHREE M**

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# Software Engineer at Bosch with hands-on experience in real-time system simulation, cloud computing, and test automation for embedded and distributed systems. Skilled in C, C++, Embedded C, Rust, Go, Python, and cloud platforms (Azure, AWS). Demonstrated expertise in OS-level debugging, driver/firmware development, and simulation of real-time, multiprocessor systems. Experienced in device drivers, network configuration, and hardware-software co-design.Proven ability to build AI-powered tools, optimize system performance, and automate testing using CI/CD pipelines. Passionate about developing hyper-scale cloud solutions and resilient architectures for impactful engineering challenges.

# WORK EXPERIENCE:

**Bosch | Software Engineer***,* ***July 2023 – Present***

* Specialized in XiL (HiL & SiL) model development, embedded systems validation, and automation using ECU-Test, Vector CANoe, dSPACE, and ETAS LabCar Platform.
* Developed AUTOSAR-compliant software, including SWCs, OS device drivers, RTE mappings, and scheduling mechanisms.
* Implemented low-level communication and signal flow diagnostics using CANoe and CAPL scripts.
* Automated complex test pipelines and regression frameworks using Jenkins, MATLAB, and Python.
* Debugged system-level issues on multiprocessor simulation platforms, ensuring real-time constraints.
* Built AI-powered Python/C++ tools for test orchestration and diagnostics, integrating ML-based decision support.
* Simulated host-networking behaviors for embedded control units and ensured protocol compliance.

**Bosch | Software Engineering Intern***,* ***Nov 2022 – July 2023***

# Assisted in embedded software integration and system-level debugging with ETAS INCA, RTE Generator, and Toolbase.

# Performed validation of device drivers and OS layer components, focusing on safety-critical compliance.

# Applied DevOps practices using Git, GitHub, Jenkins, and CI/CD to support firmware delivery cycles.

# PROJECTS:

# AI-Powered Test Automation Bot:

# Developed a Python/C++ based intelligent bot that automates embedded system testing via Jenkins and MATLAB, reducing manual intervention and increasing test efficiency.

# Real-Time Heart Rate Monitoring with GPS & Cloud:

# Built an IoT-based health monitoring device transmitting real-time vitals using GPS and Azure, with cloud integration and fault simulation for reliability testing.

# Autonomous Lane Detection System:

# Implemented real-time lane detection using OpenCV, integrated with MATLAB-based LiDAR simulation to mimic ADAS behavior in embedded control systems.

# Women Safety Web Platform – “Abhaya”:

# Designed a secure, microservice-based web application in React.js/Node.js for real-time reporting and tracking, focused on user safety and reliability.

# Speech-to-Text Recognition System:

# Created an NLP-driven Python model to convert real-time audio input to text, demonstrating embedded AI capabilities with system-level testing.

# TRAINING & CERTIFICATIONS:

# **Google IT Automation with Python** – Google

* AWS Cloud Practitioner, Cloud Support Associate – **Amazon Web Services(AWS)**

# **Google Digital Marketing & E-commerce** – Google

* Microsoft Azure Fundamentals **–** **Microsoft**

# Foundations in Embedded Mobility Sector – B****osch****

# **Wireless Communication** – Coursera

# **Cloud Computing Certification** – Skills Up

# TECHNICAL SKILLS:

# ****Programming Languages:**** C, C++, Python, Java, JavaScript, Embedded C, CAPL Script, SQL, HTML/CSS, MySQL, Linux, React.js, Node.js, PyCharm

# ****Software Development:**** Object-Oriented Programming (OOPs), Data Structures & Algorithms, Multithreading, System Design, Cloud Computing, Machine Learning (ML), Artificial Intelligence Operating System (OS).

# Frameworks/Tools: ECU-Test, MATLAB/Simulink, Jenkins, Git, GitHub, INCA, dSPACE, ETAS LabCar, Visual Studio Code, RTE Generator, Toolbase.

# EDUCATION:

# Bachelor of Technology,2019-2023: Computer and Information Technology, Reva University- Bangalore( GPA - 4.0)

# Pre-University Collage2019: Nisarga Independent PU Collage, ( GPA – 3.4)

# SSLC Sri Raja Rajeswari English Medium High School 2017, ( GPA - 4.0)

**ACHIVENMENTS:**

# ****Bosch Leadership Excellence Award, 2024****: Honored for leading a team of engineers through a complex integration project, ensuring timely and efficient delivery.

* **Winner – National Hackathon Challenge,2023:** Awarded 1st prize for developing an AI-enabled healthcare assistant for remote patient monitoring.
* **Flashshoot App –** Developed on of Trending Social media Marketing on Social Media Platform. Expertise in Editing, Animation, Graphics.

**VOLUNTEERING EXPERIENCE:**

* **Guardians of Dreams (Childcare NPO) Education Team Volunteer,** **January 2021** Guided and mentored children at an orphanage, supporting their educational development.
* **Covid-19 Relief Volunteer,** **April 2021**  
  Sourced and coordinated deliveries of healthcare supplies to vaccination centers and shelter homes in Bengaluru, India, aiding in pandemic relief efforts.