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++, Python, Embedded C, and cloud platforms (Azure, AWS), with a strong foundation in scalable, reliable software 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, integration, test automation, and validation using ECU-Test, Vector CANoe, dSPACE, and ETAS LabCar Platform.
- Built and validated AUTOSAR-compliant software with a focus on ASW Integration Platforms—developed SWCs, RTE mappings, and scheduling mechanisms.
- Automated test pipelines using Jenkins and MATLAB; enhanced ECU calibration workflows using INCA and Silvar.
- Created AI-based automation tools (Chatbot) using Python and C++, incorporating machine learning models to streamline automotive testing and reduce validation cycles.
- Contributed to developing resilient, distributed simulation platforms simulating communication protocol behaviors.

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

- Supported AUTOSAR/NANOSAR integration and system testing in the Mobility Sector.
- Used ETAS INCA, RTE Generator, Toolbase, and CubeIDE for system validation and configuration.
- Delivered end-to-end integration and safety validation solutions, ensuring adherence to industry compliance and standards.
- Practiced modern DevOps workflows using Git, GitHub, Jenkins, and CI/CD pipelines to manage branching, merging, and release cycles.

PROJECTS:

- **Real-Time Heart Rate Monitoring with GPS & Cloud Storage**
  Developed a cost-effective wearable IoT system that transmits heart rate data to a cloud server in real-time using GPS and Python-based backend; simulated distributed system performance and reliability.

- **AI-Powered Test Automation Bot**
  Developed and deployed a Python/C++ chatbot for test automation in the embedded domain; integrated with Jenkins and MATLAB to trigger test cases and auto-generate reports, mimicking observability practices in large systems.

- **Women Safety Web Platform ("Abhaya")**
  Created a secure React.js + Node.js web app for safety case reporting with real-time status tracking and authentication; follows a scalable microservice architecture.

- **Speech-to-Text Recognition Model**
  Developed a Python-based model converting real-time audio to text using NLP and ML datasets, simulating command systems.

- **Autonomous Lane Detection System**
  Implemented real-time lane detection using OpenCV and PyCharm; integrated LiDAR data and simulated fault scenarios in MATLAB/Simulink to mimic safety-critical automotive behavior.

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 – **Bosch**
- 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. (CGPA- 9.1)**
- Pre-University Collage2019: Nisarga Independent PU Collage, (**CGPA- 8.5**)
- SSLC Sri Raja Rajeswari English Medium High School 2017, (**CGPA-9**)

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.