

# Karan Bhatia

## Embedded Software Engineer

As a result-oriented engineer with expertise in problem-solving and product development for AUTOSAR and C++ projects, I have a proven track record of managing the entire Software Development Life Cycle.



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01 August, 1997

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## EDUCATION

### Electrical Engineering And Embedded Systems Hochschule Ravensburg-Weingarten University of Applied Sciences

09/2022 - Present

Weingarten, Germany

#### Courses

- Embedded Computing
- Computer vision
- Lidar-Radar
- Advanced Mathematics

### B.Tech-Electronics and Computer engineering Vellore Institute of Technology, 7.93

07/2016 - 06/2020

Chennai, India

#### Courses

- Embedded Systems
- Data Structures
- Software-Hardware Co-Design
- Operating System

## WORK EXPERIENCE

### Embedded Software Engineer: Werkstudent ZF Friedrichshafen

12/2022 - 06/2023

Friedrichshafen, Germany

#### Achievements/Tasks

- Develop and Configure the Autosar framework-based ADAS Lane Centering application.
- Implement SomeIP communication between **Lane centering and Cubix application**.
- Research and Implementation of SOAFEE-EWAOL image, to showcase a cloud native approach for Software defined vehicle.

### Embedded Software Engineer ZF Friedrichshafen

03/2020 - 09/2022

Hyderabad, India

#### Achievements/Tasks

- Developed applications with persistency, communication management, and Diagnostics functional cluster over **Vector Toolchain and Davinci Developer**.
- Created UDS-based Diagnostic Strategies as per **ISO14229, ISO26262 and ISO13400** with AUTOSAR standards for Applications.
- Followed the **Aspice Methodology** starting from analyzing the requirements and its test verification on the Codebeamer platform.
- Deployed the adaptive applications over **LINUX** and **QNX** operating systems.

### Electrical and Data Validation Head FSAE-Team Shaurya Racing

01/2017 - 06/2020

Chennai, India

#### Achievements/Tasks

- Designed and developed Primary, secondary and tertiary wiring harnesses for the formula car.
- Designed and fabricated a telemetry based data acquisition system for run-time validation and future design analysis and prevent design failures.
- Coordinated among departments to understand their analysis needs and requirements.

## SKILLS

Adaptive Autosar

Davinci Configurator

QNX

Vector Toolchain

C++

Enterprise Architect

OpenCV

ASPICE

Cmake

Azure

Linux

Code-Beamer

Docker

K3s

Python

Matlab

## PROJECTS

### Docker-based Adaptive Autosar environment (07/2020 - 09/2020)

- Set up Docker-based Autosar framework with Davinci Configurator to enable everyone with easy development and testing of applications.
- Deployed the image over Azure VDI for easy access and reliable usage.

### ASPICE complied with the Diagnostics implementation for the Adaptive Autosar-based Cruise-Control application (01/2021 - 09/2021)

- Implemented diagnostic fault codes (DTCs), Data Identifiers (DIDs), and Routine Identifiers (RIDs) and control as per ISO-14229.
- Implemented **UDS(DoIP)** protocol for Diagnostics services with the off-board tester.
- Implemented **SomeIP** and **IPC** communication protocols within the application for communication.
- Developed the application over Vector Microsar Toolchain and deployed it over **QNX 7.1** operating system.

### Object Detection using Texas Instruments Radar Sensor (09/2022 - 01/2023)

- Filtered the Radar point cloud data as per the radial velocity to identify strong and weak reflections from the Ego vehicle.
- Implemented the **Density-Based Spatial Clustering** to identify the most suitable cluster and probable location of the ego vehicle in the environment.
- Improved the accuracy of the algorithm up-to 89.3% in a single Ego vehicle environment.

### Developed Telemetry based Data Acquisition System for self-made Formula Car (01/2018 - 08/2018)

- Telemetry device to send run-time data online through calibrated sensor network on FSAE car, using a Kalman low pass filter for signal noise filtration.
- Configured project as per Mydevices and Thingspeak platforms for visualization and further analysis.

## ACHIEVEMENTS

Presented and Secured 9th position in design presentation and 12th position overall. (2018)

Formula Bharat

Presented and Secured 9th position in design presentation and 5th position overall. (2019)

Formula Bharat

## LANGUAGES

English

Full Professional Proficiency

German

Limited Working Proficiency