
Personal Information

Name Ameya Ranade
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Professional Summary

Highly skilled Embedded Software Engineer with over 7 years of experience in designing, developing, and debugging embedded applications. Proficient in working with PowerPC, Tricore, and ARM architectures. Extensive expertise in bare-metal systems and RTOS, including Embedded Linux, QNX, and FreeRTOS. Adept at system integration and troubleshooting complex embedded systems to ensure optimal performance and reliability.

Key Skills

- **Programming & Firmware Development:** Proficient in C, C++, Assembly. Knowledge of Rust, LabVIEW, Simulink, implemented drivers and applications for PowerPC, Tricore MCUs and Arm SOCs.
- **Operating Systems:** Experienced in Linux, QNX, FreeRTOS, and bare-metal programming.
- **Communication Protocols:** Skilled in UART, SPI, I2C, CAN, TCP, and UDP, socket-programming enabling robust hardware and network integration.
- **Tools:** Expert in CANoe, Qt, Trace32, Git, Make, CMake, and JIRA.
- **Debugging & Validation:** Proficient with Trace32 and oscilloscopes, resolved complex firmware issues.
- **System Design & Architecture:** System and Application design using PlantUML and Enterprise Architect.
- **3D Modeling tools:** Pro Engineer, Solid Works, Auto CAD.

Work Experience

03.2019 – Present

System Integration Manager at Mobis Technical Center Europe, Frankfurt

- **Team Leadership:** Successfully led a team of embedded engineers to meet project targets, fostering collaboration and ensuring timely delivery of high-quality solutions.
- **ADAS Logging Solution:** Designed and implemented an Advanced Driver Assistance System (ADAS) logging solution, enabling simultaneous logging of camera (serdes interface), CAN, Ethernet, and LiDAR data for application development and Neural network training.
- **Hardware-in-the-Loop (HiL) System:** Developed and implemented a HiL system for synchronized streaming of camera and CAN data, simplifying application development and optimisation.
- **System Interface Integration:** Defined and integrated CAN and Ethernet system interfaces, ensuring seamless communication and interoperability across embedded systems.
- **UI Application Development:** Implemented a Qt-based UI application for testing and debugging, enhancing user interaction and system diagnostics.
- **ADAS Application Integration:** Integrated ADAS application components for deployment on both Linux PCs and embedded systems, ensuring robust and scalable solutions.

- 08.2012 – 02.2019 *Development Engineer at Silver Atena Electronics GmbH, Munich*
- **Embedded Software Development:**
 - Authored comprehensive development artifacts, including requirements, detailed design, Trace 32 debugger scripts, and system integration tests.
 - Contributed to the development of system architecture.
 - Implemented software for MPC5777C (PowerPC) and Infineon Aurix processors, optimizing functionality for embedded applications.
 - Configured and integrated AUTOSAR Diagnostic Error Manager, improving system diagnostics and reliability.
 - **Mechanical Product Development:**
 - Designed components for a Mechatronic Steering test rig, including linear actuators and steering actuators, ensuring precision and operational efficiency.
 - Developed ECU enclosures and internal electronic layouts, with maximum heat dissipation and optimal use of space.
 - Created detailed bills of materials and manufacturing drawings to support accurate production and assembly processes.
- 10.2010 – 08.2012 *Development Engineer at Cosateq GmbH & Co. in Wangen*
(Placed at MTU Friedrichshafen as external employee)
- **ECU Application Development:** Developed Electronic Control Unit (ECU) functions using Matlab/Simulink.
 - **Software Validation:** Conducted software unit validation tests to verify functionality and reliability of developed components.
 - **User Documentation:** Compiled comprehensive user documentation to support system usability and maintenance.
 - **System Test Support:** Provided technical support to the system test team, facilitating effective integration and validation of embedded systems.
- 04.2010 – 09.2010 *Trainee at Cosateq GmbH & Co., Wangen*
- **Controller Model Development:** Designed and developed system models using Matlab/Simulink, Scicos/Scilab, and LabView, ensuring accurate and efficient system simulations.
 - **Driver Interface Development:** Created 'Comedi' driver interface functions for integration with Matlab/Simulink, enabling seamless hardware communication.
 - **Documentation:** Compiled detailed project documentation and user manuals to support system implementation and end-user understanding.
- 04.2009 – 01.2010 *Design Engineer at Waitkus Engineering GmbH, Weingarten*
- **Test Rig Design:** Designed test rigs using Pro Engineer and SolidWorks and generated manufacturing drawings for production.
- 01.2006 – 07.2007 *Design Engineer at Machinart Engineering Design, Pune (India)*
- **3D Modelling:** Designed in 3D packaging machines for the pharmaceutical industry, and printing machines for textile industries.
 - **Motor Sizing Calculations:** Performed calculations to determine appropriate electric motor sizes, ensuring optimal performance and energy efficiency.
 - **Manufacturing Documentation:** Created detailed manufacturing drawings and bills of materials to support accurate production and assembly processes.

- 07.2005 – 12.2005 *Graduate Engineer Trainee at L&T-John Deere Equipment Pvt. Ltd. Pune (India)*
- **Trainee Engineer:** Gained hands-on experience in engine testing procedures and vendor development.

Education

- 10.2007 – 02.2009 *FH Ravensburg-Weingarten*
- MSc. Mechatronics.**
- Master Thesis at Liebherr Elektronik GmbH in Lindau: Thesis Topic '*Design and development of a high current connector for hybrid vehicles*'.
 - Passing grade: 1.3 (as per German Grade System)
- 08.2002 – 05.2005 *University of Pune, India*
- BE Mechanical Engineering**
- Passing grade: First class

20 September 2025

Ameya Ranade