AUMOVIO

Expert, Radar System Architecture

Vos activités

System Architecture Design & Definition

- Develop comprehensive radar system architecture including RF frontend, analog/digital signal processing, A/D conversion, digital signal processing, and higher-level algorithms.
- Define system requirements, interfaces, and specifications aligned with product goals.
- Design the data flow, control flow, and data exchange mechanisms across modules and cores.
- Establish system-level trade-offs considering power, performance, and reliability.

Radar Signal Processing & Algorithm Development

- Lead development of signal processing algorithms including FMCW/CCM chirp generation, interference suppression, and high angular resolution technology.
- Design and validate digital beamforming algorithms and multi-antenna processing.
- Oversee the implementation and optimization of radar detection, clustering, tracking, and classification algorithms.
- Integrate machine learning or AI-based processing if applicable.

Software Task Scheduling & Embedded Runtime Optimization

- Define software architecture and task scheduling for real-time performance.
- Optimize embedded software to maximize processing efficiency on the new chip architecture.
- Ensure low-latency data handling and real-time response capabilities.
- Balance computational loads across multiple cores and manage synchronization.

Firmware & Low-Level Software Development

- Oversee the deployment of C/C++ code on the new chip platform.
- Define and implement firmware interfaces with hardware modules.
- Develop or supervise the development of device drivers, middleware, and APIs.
- Enable efficient debugging, profiling, and performance tuning of embedded software.

Hardware-Software Integration & Validation

- Collaborate closely with hardware design teams to ensure seamless integration.
- Define and monitor the process of system integration testing and validation at hardware and software levels.
- Troubleshoot and resolve issues related to hardware-software

Référence
REF5218H

Site
Shanghai

Niveau de leadership
Leading Self

Unité légale
AUMOVIO Autonomous Mobility Co., Ltd.

interactions.

Multi-Core Processing & Data Exchange

 - Design scalable multi-core processing architectures for radar data processing.
 - Implement efficient data exchange mechanisms such as shared memory, message passing, or hardware FIFO.
 - Optimize inter-core communication for minimal latency and maximum throughput.
 - Implement fault-tolerance and error handling mechanisms.

System Performance Optimization & Reliability

 - Use profiling tools and simulation to identify bottlenecks.
 - Fine-tune system parameters and software routines to meet stringent automotive standards.
 - Integrate safety, redundancy, and fault detection mechanisms.
 - Ensure system robustness under varying operational conditions.

Standards, Compliance & Documentation

- Ensure design complies with automotive safety (ISO26262), electromagnetic compatibility, and other relevant standards.
 - Document architecture, algorithms, software, and hardware interfaces thoroughly.
 - Lead technical reviews and knowledge sharing within the team and with partners.

As a highly experienced Radar System Architecture Expert, this role will spearhead the design and development of next-generation Radar systems utilizing cutting-edge chip technology from a new supplier. The ideal candidate will possess a deep understanding of radar signal processing, embedded system design, and software-hardware integration to deliver innovative and reliable automotive Radar solutions.

Key Objectives:
- Lead the overall architecture and system design of next-generation Automotive Radar systems.
- Drive integration of new chip architectures into radar signal processing and system workflows.
- Define and oversee system requirements, specifications, and design trade-offs.
- Collaborate with hardware, software, and application teams to ensure seamless integration and optimal system performance.
- Optimize embedded software deployment and runtime for high-throughput, real-time radar processing.
- Establish best practices for multi-core data exchange, low-latency processing, and system robustness.
- Ensure compliance with automotive standards and safety requirements.

Votre profil

Education / Certification

- Master degree in engineering or relevant fileds

Professional Experience
(Variety of Functions, Variety of Business, General Management Experience)

- Proven experience in radar system architecture, embedded software development, and hardware-software integration in automotive or related industries.
 - Deep understanding of mmWave radar signal processing, beamforming, and algorithm optimization.
 - Practical experience with new chip platforms, C/C++ programming, and real-time embedded systems.
 - Experience with multi-core processors, low-latency inter-core communication, and runtime optimization.
 - Strong problem-solving skills and ability to lead multidisciplinary teams.
 - Knowledge of automotive safety standards (ISO26262), electromagnetic compatibility, and system validation.

Project and/or ProcessExperience

- Projectmanagment, PLC experience, Intellectual Property

Leadership Experience

- Leading engineering teams (functional, disciplinary)

Notre offre

Ready to take your career to the next level? The future of mobility isn't just anyone's job.　Make it yours!　**Join AUMOVIO. Own What's Next.**

A propos de nous

Aumovio Autonomous Mobility (Shanghai) Co., Ltd.