PERSONAL DATA

Name	KanishakKatahra
Address	Bleichstraße 12, 89077 Ulm
Phone	+49 177 8768378
E-mail	kanishak14@gmail.com

WORK EXPERIENCE

08/2024 - Present **Embedded Software Developer, Scantinel Photonics GmbH, Ulm, Germany**
Aurix TriCore ▪ Software Architecture ▪ C ▪ Python ▪ FreeRTOS
- Contact point for next generation of the sample
- Conception and implementation of software architecture
- Programming laser control board, EEPROM, I2C sensor array
- Interfacing DAC array using SPI for switching optical exits
- Optimized communication signals through advanced PWM generation
- Developed robust Ethernet-based communication between the device and GUI
- Development of automated test scripts and simulation
- Introduction and maintenance of Git repository including submodule management and CI/CD pipeline
- Hardware debugging, oscilloscope measurement

04/2023 - 07/2024 **Embedded Software Developer, ALTEN GmbH, Coburg, Germany**
C ▪ AUTOSAR ▪ Functional Safety ▪ ASPICE
- Software development for massage functionality in a car seat
- Design software architect of Door Control Unit
- Participation in ASPICE assessment

11/2021 – 03/2023 **Master Thesis and Intern, Blickfeld GmbH, Munich, Germany**
C ▪ STM32 ▪ C ▪ MATLAB ▪ SIMULINK ▪ Python ▪ Git ▪ Docker
- Thesis: "Lissajous Curves as Scan Patterns in a 3D Scanning LiDAR" (Grade: 1.3)
- Software development for massage functionality in a car seat
- Control of the mirrors to deflect the laser beam with MCUs
- Development of laser triggering algorithm on ARM Cortex-M MCU
- Optimized the code on STM32 to make it 16% faster
- Reduced power consumption by the ARM Cortex-M MCU by 9%
- Developed a Python based tool for flashing firmware images on MCU
- Developed Python based tool for profiling

06/2017 – 09/2018 **Embedded Software Developer, Corporate Designz, Delhi, India**
C ▪ AVR ▪ STM32 ▪ Proteus
- Developed a controller for a motor driver
- Developed a controller for eBike including system overcurrent protection and speed measurement

EDUCATION

10/2018 – 03/2023 **Master of Science, Embedded Systems, Technische Universität, Chemnitz**, *(Grade: 2.1)*

08/2013 – 05/2017 **Bachelor in Technology in Instrumentation and Control Engineering, Manipal Institute of Technology, Manipal**, *(Grade: 2.2)*

SKILLS

Languages	German (B2), English (Fluent C1)
Programming Lang.	C, C++, Python, Make, Bash
Software	MATLAB, SIMULINK, PyQt, CMake, Git, Docker, Altium, VS Code
Microcontrollers	STM32, Aurix TriCore
Miscellaneous	ARM-based Microcontrollers, Linux, FreeRTOS, ARM-GCC Toolchain, Debugger (JTAG, SWD), CodeBeamer, ASPICE, Requirements

Projects

Ground Contact Evaluation of a Walking Robot
C++ ▪ CAN ▪ I2C ▪ SPI ▪ USB
- Interfaced matrix of 48 pressure sensors with STM32
- Computed center of pressure
- Used IMU to measure orientation using Kalman filter
- Python based tool for visualizing data
- USB, CAN to forward data

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