Amogha M P

Work permit: German | **Date of birth:** 26/08/2001 | **Nationality:** Indian | **Gender:** Male |

Phone number: (+49) 15510217648 (Mobile) | **Email address:** amoghamp@gmail.com |

LinkedIn: https://www.linkedin.com/in/amogha-m-p-7978881a7/

ABOUT ME

Master's student in Information Technology at the University of Stuttgart with hands-on experience in embedded systems, industrial automation, and firmware development. Skilled in Rust, C/C++, Python, and HDL with a proven track record of building secure, scalable, and power-efficient solutions across hardware and software platforms.

SKILLS

Programming Languages

C | Embedded C | C++ | HDL(SystemVerilog,Vhdl, Verilog) | bitbake | rust | Python

Tools and Software

Matlab/Simulik | Simulink | Xilinx Ise | STMCube IDE | JIRA | Git | Visual Studio & Visual Studio Code | Yocto | CCS Studio | Creo | MS Office | KiCAD , Altium CAD tools | target process

Skills

Linux | SPI | Microcontroller programming | I2C | Firmware Development | PCB-Design | RTOS | CAN | UART | UML | Driver Development | INDUSTRY 4.0 | Digital twin | Embedded Systems | Internet of Things (IoT)

WORK EXPERIENCE

BELDEN/HIRSCHMANN AUTOMATION AND CONTROL – STUTTGART, GERMANY

MASTER THESIS – 01/10/2023 – CURRENT

- Developing a modular, stateful failure monitoring solution for belden-based industrial routers.
- Designing platform-agnostic concepts for automated fault detection, isolation, and recovery.
- Aligned design with compliance and quality requirements in collaboration with academic and industrial stakeholders.

BELDEN/HIRSCHMANN AUTOMATION AND CONTROL – STUTTGART, GERMANY

RESEARCH AND DEVELOPMENT INTERN – 01/02/2025 – 31/08/2025

- Developed and deployed a Rust proxy application for industrial Linux devices, improving security and bridging applications with system services.
- Implemented Rust–C++ interoperability using the cxx crate.
- Integrated Rust apps into Yocto images (meta-rust).
- Collaborated in Agile teams (Git, Jira, Jenkins), accelerating feature delivery and improving code quality.
- Optimized for low-latency and high-throughput leveraging Rust's concurrency and memory safety.
- Authored documentation and test frameworks ensuring long-term scalability.

UNIVERSITY OF STUTTGART – STUTTGART, GERMANY

RESEARCH ASSISTANT IN UNIVERSITY – 01/01/2024 – 01/01/2025

- Built efficient BLE firmware and drivers in Embedded C for microcontroller data transmission.
- Led complex PCB designs (KiCad) and resolved hardware/software issues, improving system reliability.

SCHNEIDER ELECTRIC

INTERNSHIP – 01/02/2023 – 01/05/2023

- Deployed an AR-based soldering training program, reducing operator training time.
- Built prototypes with Blender, Unity, and Vuforia AR SDK.

INDIAN INSTITUTE OF TECHNOLOGY

INTERNSHIP – 01/07/2021 – 01/10/2021

- Integrated AR and IIoT data in robotic systems using Vuforia, enhancing Human Machine Interface
- Implemented digital twin solutions for real-time monitoring.

PROJECTS

Multi-Platform Hardware & Software Management for Embedded Systems

Built a framework for managing updates across multiple platforms, with BLE comms between CC2651R3SIPA and Raspberry Pi, optimized for low power.

Dual-Core RISC-V Processor

Designed with interrupt handling and cache optimization using VHDL/Verilog.

Skin Cancer Detection (Raspberry Pi + DL)

A government funded project where EfficientNet B7 was used for melanoma detection, optimized for low-cost embedded hardware.

Advanced Mining Suit (ESP32)

Built sensor-integrated smart work clothing with ESP-NOW communication.

Portable Ventilator

Designed a low-cost, microcontroller-based portable ventilator for respiratory support, crucial during the COVID-19 pandemic.

EDUCATION AND TRAINING

01/10/2023 – CURRENT
MASTERS IN INFORMATION TECHNOLOGY University of Stuttgart

01/06/2019 – 30/05/2023
BACHELOR OF ENGINEERING (ELECTRONICS AND COMMUNICATION) Visvesvaraya Technological University (VTU) | Final grade: 9.06 CGPA

HONOURS AND AWARDS

Accolades

- **Best Student Achiever Award** – VTU, for academic excellence.
- **Second Runner-Up, TiE International Appathon** – predictive platform for climate risk.
- **Ministry of Education Award** – innovative mini-project competitions.
- **Treasurer-Elect, IEEE Student Branch; Chair-Elect, IEEE Robotics & Automation Society.**
- Organized **national hackathons** and **IEEE student congress.**

LANGUAGE SKILLS

Mother tongue(s): **KANNADA**

Other language(s):

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken production	Spoken interaction	
ENGLISH	C1	C1	C1	C1	C1
GERMAN	A1	A1	A1	A1	A1

Levels: A1 and A2: Basic user; B1 and B2: Independent user; C1 and C2: Proficient user