Reyes, Carlos

PLZ *****, Hamburg

+49 1 **********

juan.reyes.andrade[at]tuhh[dot]de // jreyesa0901[at]gmail[dot]com

juan-carlos-reyes-andrade-108796113

Born in 1991
Full name: Reyes Andrade, Juan Carlos

PROFILE

Summary

- **Open to following positions:** Embedded systems engineer, software developer for embedded systems, automation engineer, hardware designer, junior project manager for automation and/or embedded systems in industrial applications
- **Salary expectation:** 20-22K €/year (working student only)
- **Relocation:** Within Germany from 2022.04 onward
- **Type of employment:** Part-time and open to remote positions (first 6 months)
- **Preferred language:** English (for technical discussions) and German

- **Current topics of interest:** Rust language, security and dependability of software for industrial applications, Cyber-Physical systems, embedded systems (ES), enabling hardware for machine learning (ML), open-source projects, Time Sensitive Networks (TSN), Industrial Internet of Things (IIoT), development of EtherCAT-compatible devices, CAN protocol, interfacing in-house developed devices to industrial networks, project management for technology development, LoRaWAN applications. Extra: Politics, psychology and cycling.

Soft skills **Autonomy, Self-learning, Engagement, Flexibility, Proactivity**

WORK EXPERIENCE

April 2020 – July 2021

Software Developer for Embedded Systems/Electronic Design (Werkstudent)

Neura Robotics GmbH, Hamburg, Germany

- Full firmware development and validation of an EtherCAT-compatible communication hub using ARM MCU with CMSIS-RTOS and version control tools (Git). (STM32, Microchip's ESC and SOES)
- Full PCB design with Altium and its prototype tests

October 2018 – January 2020

Software Developer for IPCs (Werkstudent)

ima-tec gmbh, Würzburg, Germany

- Programming of Beckhoff's IPCs and integration of low-weight EPSON Robots in assembly lines and test-stations (TwinCAT)
- Definition of the SW architecture of a SDCI (IO-Link)-compatible device using ARM MCU (STM32)
- Teamwork for integration of a 3D-Vision system into a robotic inspection station using Version Control Tools (Git)

July 2016 – July 2018

Automation and PLCs Engineer

BOS Automotive Products Inc, Irapuato, Mexico/Mosonszolnok, Hungary

- Supporting Launch Manufacturing/Quality Engineers during the planning, integration and fine tuning of new Sunroof assembly line and EOL-Testers
- PLC and HMI programming using Siemen's TIA PORTAL (S7-1200 and TP700)
- Commissioning of COGNEX Vision Systems
- Software-oriented training for maintenance of robotic cells

EDUCATION

2018 – present

Master's degree in Information and Communication Systems

Hamburg University of Technology, Germany

- Non-Technical relevant modules: Business and Management Module, German Language Master Courses and Literatur und Kultur Course.

WiSe 2021

Master Thesis: Communication concept for multi-sensor platform

Institute for Mechatronics (iMEK) - Hamburg University of Technology

- Communication tests with IRIDIUM and LoRaWAN modules
- Design and documentation of a communication strategy focused on power-saving
- Firmware in C of the communication board
- PCB design with EAGLE and HW-test of the prototype

SoSe 2020

Research Project: Development of an embedded communication hub for sensor data acquisition in a robotic system

smartPORT Institute - Hamburg University of Technology

- Design and implementation of firmware and PCB using FreeRTOS and Altium, respectively, for an EtherCAT-compatible device

2010 – 2015

Bachelor's degree in Mechatronics

UPIITA, National Polytechnic Institute, Mexico

- Topics mainly focused on Electronics, Industrial Applications, Automation and Robotics.

SKILLS

Languages

English – Receptive C1, Productive C1

- IELTS Overall Result Band 7.0

German – Receptive B2.2, Productive B2.1

- Goethe Zertifikat B2.1

Spanish – Mother tongue

**Receptive (Listening and reading), productive (speaking and writing)*

Relevant technical

Currently being used:

- **Hardware:** ATSAME5x (ARM MCU), IRIDIUM 9603 (Satellite transceiver), ESP32/RFM95W (LoRa transceiver)
- **Design/Simulation IDEs:** EAGLE (PCB design)
- **Programming IDEs:** TwinCAT3, Visual Studio, PlatformIO, AVR/Microchip Studio
- **Programming languages:** C for embedded applications, Rust (just starting), ExST
- **Libraries:** SF4 API (AVR Libraries), CMSIS-RTOS, FreeRTOS, ESP-1ch-Gateway, arduino-lmic
- **Other SW:** GIT control version tool, MS Office, MS Project

Experience with, though not a current focus:

- **Hardware:** LAN/USB controllers from Microchip LAN78xx / USB57xx, ESC controller LAN9252
- **Design/Simulation IDE:** SolidWorks, Altium, OMNET++ (Simmulation of communication networks), UPPAAL (Software Verification),
- **Programming IDEs:** SIEMENS TIA PORTAL, MATLAB, LabView, Linux-based hardware configuration tools, Linux Bash Terminal, Eclipse, STM32CubeIDE, EPSON's IDE for Robot's Controllers
- **Programming languages:** C++, Python, Ladder (S7), SPEL+ Programming Language
- **Libraries:** STM HAL Libraries, SOES/SOEM open EtherCAT libraries