Dr STEFAN
TRENKWALDER

RTOS and EMBEDDED SOFTWARE ENGINEER

CONTACTS

📞 +43 699 19870000

✉ stefan@trenkwalder.tech

🌐 www.trenkwalder.tech

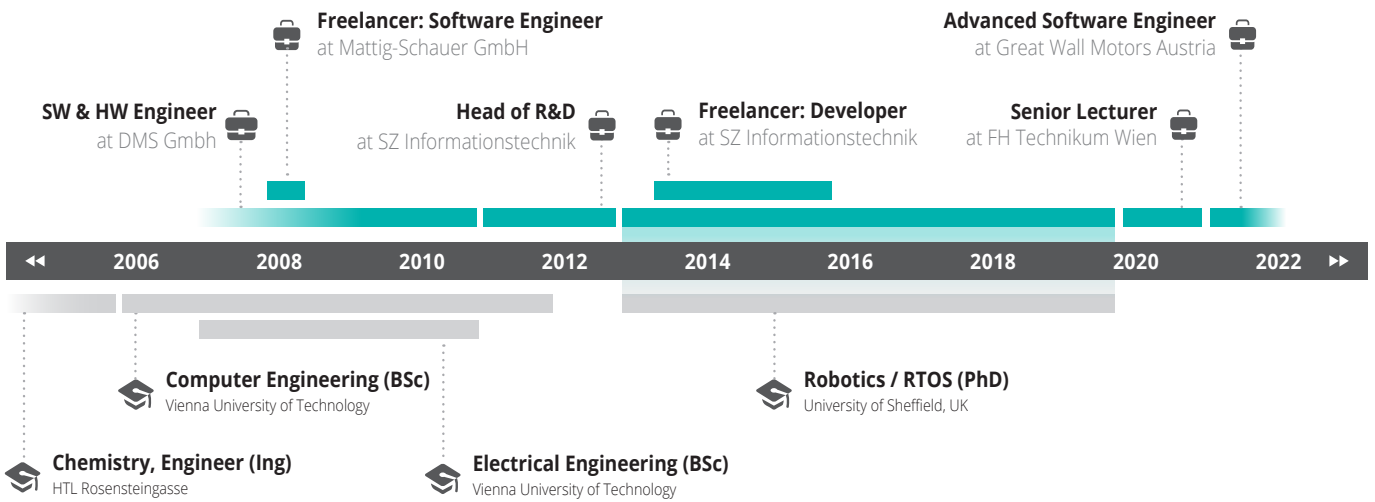🏠 Mollardgasse 48a/1/9,
1060 Vienna, Austria

"A hardworking and resourceful engineer who is self-motivated, self-sufficient and comes to you with a strong background in robotics, computer science, and electronic engineering.

With the work on RTOSs, he has 15 years of experience. He is an agile and test-driven developer following the philosophy: One can only develop fast when developing well."
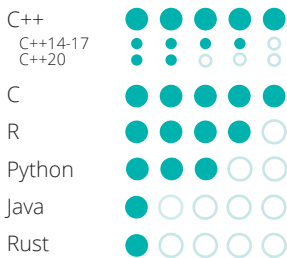
>10y	**C** & **C++**
Work Exp.	Preferred Lang

■ TIME LINE

Freelancer: Software Engineer
at Mattig-Schauer GmbH

Advanced Software Engineer
at Great Wall Motors Austria

SW & HW Engineer
at DMS Gmbh

Head of R&D
at SZ Informationstechnik

Freelancer: Developer
at SZ Informationstechnik

Senior Lecturer
at FH Technikum Wien

◄◄	2006	2008	2010	2012	2014	2016	2018	2020	2022	►►

Computer Engineering (BSc)
Vienna University of Technology

Robotics / RTOS (PhD)
University of Sheffield, UK

Chemistry, Engineer (Ing)
HTL Rosensteingasse

Electrical Engineering (BSc)
Vienna University of Technology

■ SKILLS

PROGRAMMING LANGUAGES

C++	● ● ● ● ●
C++14-17	● ● ● ● ●
C++20	● ● ○ ○ ○
C	● ● ● ● ●
R	● ● ● ● ○
Python	● ● ● ○ ○
Java	● ○ ○ ○ ○
Rust	● ○ ○ ○ ○

ENVIRONMENTS & FRAMEWORKS

Linux	● ● ● ● ○
System Prog.	● ● ● ○ ○
Kernel Dev	● ● ○ ○ ○
Baremetal	● ● ● ● ●
Qt	● ● ● ● ○
OpenCV	● ● ● ○ ○
Maple	● ● ○ ○ ○
Matlab	● ○ ○ ○ ○

DEVELOPMENT PROCESS

Agile	● ● ● ● ○
SOLID	● ● ● ● ○
TDD	● ● ● ○ ○
BDD	● ● ○ ○ ○

DEV OPS

Git	● ● ● ● ○
Gitlab CI	● ● ● ● ○
GTest	● ● ● ○ ○
QTest	● ● ● ○ ○
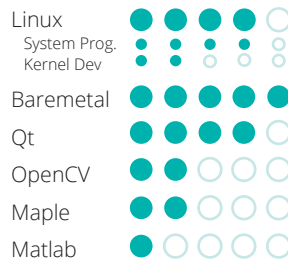
■ EXPERIENCE WITH:

Platforms:
ARM Cortex M4, RISC-V, STM32, dsPIC, AVR, TriCore

Bus:
I²C, UART, SPI, RS-232

Communication:
Bluetooth, TCP/IP

Standards:
ISO 26262, ASPICE

■ SPOKEN LANGUAGES

German
native

English
fluent

■ INTERNATIONAL EXPERIENCE

Sheffield/Leeds, UK > 7 Years

Glasgow, UK > 1 Month

Cambridge, UK > 1 Month

Austria > remaining

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■ WORK EXPERIENCE

Advanced Software Engineer
Great Wall Motors Austria R&D GmbH
Mar 2020 - Today
📍 Kottingbrunn, AT

I am developing inverters for electrical motors. This includes:
- Developing architecture & components (AUTOSAR 4.2.2)
- Programming in C, Configuring Modules with ISOLAR-A/B & RTA-Car
- Improving Process and Automation with Pyhton
- Introducing Agile methods and TDD

Senior Lecturer
University of Applied. Sciences Technikum Wien
Apr 2020 - Dec 2021
📍 Vienna, AT

I was teaching:
- Digital Systems and Computer Architecture
- Hardware-near Software Engineering
- Embedded Systems Software

My research areas are RTOS, embedded systems, and robotics.

Researcher / PhD Candidate
University of Sheffield
Oct 2013 - Mar 2020
📍 Sheffield, UK

My research focused on developing a Real-Time Operating Systems (RTOS) for robots, designing optical communication, and the impact of processing large data sets on swarm robots.

Freelancing: Software Engineer (part-time)
SZ Informationstechnik
Mar 2014 - Feb 2016
📍 Sheffield, UK

I provided bug fixes, updates, and extensions to a cross-platform automatic announcement system (see next).

HEAD OF RESEARCH AND DEVELOPMENT
SZ Informationstechnik
Sep 2011 - Sep 2013
📍 Vienna, AT

I was a founding member of SZIT and successfully developed a cross-platform automatic announcement system currently used at all subway stations across Vienna.

Software and Embedded Systems Engineer
Data and Measurement Services GmbH
Sep 2011 - Sep 2013
📍 Vienna, AT

I developed embedded systems, designed software, and provided support for the client. This work involved interaction with many customers and smaller projects.

■ GAINED SKILLS

Standards:
ISO 26262
A-SPICE

Programming:
C on Infineon TriCore
TDD for Embedded Target
Python for Automation
Tasking Compiler

Process Improvements
Introduced TDD & Agile
Trialed Pair Programming

Management:
Large groups
Mentoring

Programming:
C on Linux
C on ARM Cortex M4
TI - RTOS
Timers, IRQ, GPIO

Digital Fundamentals
Computer Architecture
Digital Circuits

Development
C, C++, Qt,
OpenCV, R

Research
RTOS, Robotics
Optical Communication

Other:
Project Management
Publications
Mentoring

Development:
C++, Qt, git
Networking/Sockets

Documentation writing

Development
C++, Qt, git
Networking,
SQL, Doxygen

Other:
Project management
Client Relations
Negotiation

Architecture
Software and GUI
API

Development
C, git
SQL
Access

Other:
Project management
Client Acquisition
Teamwork

Hardware
Networks
Circuit Design

■ REFERENCES

References are provided on request

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