

# FLORIAN ZACHS | CURRICULUM VITAE

- » Name: Florian Zachs
- » Birth date: 15.11.2002
- » Address: Königsberg 98, 2842 Thomasberg
- » Portfolio: [Link to GitHub](#) | [Link to LinkedIn](#)
- » Contact: zachs.florian@gmail.com | +4369981159720
- » Summary: All-rounder in robot technology  
(Mechanical, Electronics & Programming)



## »» Professional experience

08/22-07/23	<b>Reet Systems GmbH</b>	Location Mödling/AT
	<ul style="list-style-type: none"><li>» 10/22 to 07/23 Part-Time during Civil Service<ul style="list-style-type: none"><li>» Responsible for UI/UX Design of the Beckhoff HMI</li><li>» Planning and development of the industrial user interface</li><li>» As well as optical refinements using Javascript, HTML and CSS</li></ul></li><li>» 08/22 to 09/22 Commissioning Engineer Full-Time<ul style="list-style-type: none"><li>» Complex procedure programming in ST with Beckhoff TwinCAT 3</li><li>» Commissioning of prototypes, troubleshooting and bug fixing</li><li>» Planning, assembly and running of testing facilities</li></ul></li></ul>	
10/22-06/23	<b>Paramedic</b>	Location Aspang/AT
	<ul style="list-style-type: none"><li>» Civil Service at SMD Rettungsdienst (Medical Service/Ambulance)</li></ul>	
08/2021	<b>Internship at IGM Robotersysteme AG</b>	Location Mödling/AT
	<ul style="list-style-type: none"><li>» Maintenance of welding robots at IGM's customers (Austria-wide)</li><li>» Participation in 7-day operator training with IGM welding robots</li></ul>	
08/2020	<b>Internship at Cosma Engineering (MAGNA)</b>	Location Weikersdorf/AT
	<ul style="list-style-type: none"><li>» Equipping of welding robot jigs for vehicle prototype manufacturing</li><li>» Post-processing of welded aluminium parts</li></ul>	
08/2019	<b>Internship at Constantia Patz GmbH</b>	Location Loipersbach/AT
	<ul style="list-style-type: none"><li>» Maintenance of production machines in the pharma industry</li></ul>	

## »» Education

2018 - 2022	<b>Robotics Club robo4you/F-WuTS</b>	Optional subject at HTBLuVA (below)
	<ul style="list-style-type: none"><li>» Homepage: <a href="https://robo4you.at">https://robo4you.at</a></li><li>» Planning, assembly and programming of mobile autonomous robots<ul style="list-style-type: none"><li>» Technologies: Raspberry Pi, Linux, C++</li></ul></li><li>» Participation in international robotics competitions as Team qbit:<ul style="list-style-type: none"><li>» 1. Place Seeding and 2. Overall - World championship/GCER 2022 in Oklahoma/USA</li><li>» 1. Place Seeding and 1. Overall - Euro-championship/ECER 2022 in Bratislava/SVK</li><li>» 1. Place DE and 2. Overall - Euro-championship/ECER 2019 in Vienna/AT</li></ul></li><li>» Diploma Thesis developed for robo4you</li></ul>	

- » High School Diploma 2022 with excellent success
- » CREO Parametric 5 & 7, CATIA V5, Beckhoff TwinCAT 3
- » Diploma Thesis FLAME: Originally written in English
  - » Link to Online-View | Link to Banner
  - » 4-axis Robotic arm as an extension for the Festo Robotino
  - » Ethernet-Interface and self-developed Arduino-Firmware in C++
  - » Prototype was engineered, assembled, tested and presented

## »» Publications

2021 - 2022

### **Botball meets ARIS, a novel Autonomous Robot Interface Simulation System**

- » Presented at ECER and GCER 2022 (Please refer to Robotics Club robo4you)
- » Link to Online-View

2021 - 2022

### **Differences between Wallaby and NXT-controlled robots**

- » Presented at ECER 2019 (Please refer to Robotics Club robo4you)
- » Link to Online-View

## »» Presentations

03/2023

### **Presentation of the Botball Championship**

FH St. Pölten

- » At SAINT 2023:
  - » Fair at the FH St. Pölten about Artificial Intelligence
  - » Title: "Die Schule der Weltmeister"
  - » Presentation of the championship itself and our way to the world champion title

## »» Expertise and Interests

### **Modern software development**

- » C++: Very in-depth expertise by more than 7 years of practical experience
  - » Both in terms of modern Standard Library Features (C++17 and above)
  - » As well as Low-Level or Embedded Programming, or Memory Management
  - » As a result, equally in-depth expertise about modern CMake (CMake 3.16+)
  - » Please refer to the GitHub Portfolio for hobby project examples
- » General-Purpose Tools for modern software development:
  - » CMake, git, GitHub DevOps, Markdown/Doxygen, Batch, bash, LaTeX
- » Advanced knowledge of JavaScript/TypeScript in relation to Node.js/Electron.js
- » Basic knowledge of Python and Rust
- » Great Appreciation for user-friendliness and clean code

### **PLC-Programming with Beckhoff**

- » Advanced skills in ST with Beckhoff TwinCAT 3
- » In-depth skills in the Beckhoff HMI workspace

### **Embedded Software**

- » In-depth skills in Arduino, STM32 and Raspberry PI programming

## **Mechanical Engineering/CAD/CAM**

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- » In-depth skills in mechanical construction and mechanical drawings
- » Advanced skills with Creo Parametric and Autodesk Fusion 360
- » Basic knowledge of Solidworks CAM and Catia V5

## **Electronics**

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- » Solid base knowledge of electronics and electronic circuits

## **Control Theory**

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- » Special interest in Software related to Control Theory
  - » In-depth knowledge about PID controllers (Theory and Implementation)
- » Basic knowledge of ROS (Linux-Framework for robotics systems)

## **Operating systems**

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- » In-depth skills with Windows and Linux operating systems
  - » As well as Embedded Linux skills based on Raspberry Pi

## **»»» Miscellaneous**

### **Certificates**

- » Participation at Beckhoff Summer School (Advanced)
  - » PLC-Programming in the area of Control Theory

### **Licenses**

- » Drivers licenses B and F
- » Forklift drivers license
- » Crane operating license for floor-controlled cranes up to 300kN

### **Languages**

- » German (Mother language)
- » English (fluent)

## **»»» Final words**

The majority of my knowledge is based on self-learning, hobby projects or the Robotics Club robo4you, although the last two are interwoven. The knowledge i gained from school is minor in comparison, most of it was gained outside of school.

I am very interested in industrial robots, both from the mechanical and electrical side, as well as from the software side. For programming, I am especially interested in Control Theory and any software that is used to run a robot (from the motor controller to the user interface). I have great appreciation for a clean working strategy and an uncomplicated user experience.

Especially during my first job as a programmer i learned that i am by far no longer a junior programmer. I am very ambitioned and - when it is time to do so - want to take over a position as a project leader or lead programmer that actively works on the project, and has a broad understanding of the entire project. Communication is key for me!

The Technische Universität Graz is planned to be my further education, and i want to study Digital Engineering as a Master's Degree. A participation in the TU Graz Racing Team or the Aerospace Team is also not unlikely.

Thank you for your interest in my Curriculum Vitae!

Best Wishes

Florian Zachs