



## Anatolii Tsirkunenko

🏠 24.11.1997 (28 years)

🏠 Munich, Germany

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## Summary

I am passionate about creating innovative projects and solutions in the Embedded Software Development domain (5+ years), as well as Web Development (3+ years), and using my leadership abilities to drive my team to success. With my diverse skill set and experience, I am confident in my ability to develop and lead complex software systems that can contribute to the advancement of the industry.

## Skills

**Programming** C, Python, JavaScript, TypeScript, Assembly Language, Software Architecture, SOLID Design Principles, Clean Code

**Embedded** CAN, CANOpen, UART, SPI, I2C, EtherCAT, Wi-Fi, TCP/UDP, RS485, RTOS, ISO26262, BMS, IoT, Cellular Protocols

**Web** React, NextJS, Django (REST), Docker, Nginx, MongoDB, SQL, Web of Things (WoT), NodeJS, Websockets, HTML/CSS, SASS

**Development Tools** Eclipse, VSCode, IntelliJ, Enterprise Architect, CANalyzer, PCAN-Explorer, CANopen Explorer, WinIDEA, Ozone, MATLAB/Simulink

**Languages** English - C1, German - B2, Russian - Native

## Work Experience

### Cellular Software Engineer

2 years and 5 months 15.12.2023 — Current

📍 Apple (Munich, Germany)

- Developed SW for Apple's Cellular Modem (**C / Cellular**)
- Analyzed and fixed SW issues across Layer 1 (**C / Traces Analysis**)
- Developed 2 Verification Frameworks for Layer 1&2 (**C / Python**)
- Developed a vast amount of scripts for work optimization/automations (**Python / Shell**)

### Embedded Software Developer BMS

3 years and 9 months 02.03.2020 — 29.11.2023

📍 LION Smart GmbH (Garching, Germany)

- Developed SW and Architecture for **BMS** and internal projects (**C / S32KX / RTOS / SPI / I2C / CAN / UART / Enterprise Architect**)
- Developed multiple scripts for work optimization (**Python**)
- Lead a team of 5 people (**Codebeamer / V-Model**)

### Firmware Developer (Volunteering)

3 years 11.11.2019 — 28.10.2022

📍 TUM Hyperloop (Munich, Germany)

Developed SW and Architecture for the levitation controller and BMS (**C / Infineon XMC4800 / STM32 Nucleo-144 / EtherCAT / SPI / UART / RTOS**)

### Master Thesis (Internship)

6 months 04.10.2021 — 31.03.2022

📍 TUM (Munich, Germany)

Topic: Development and Evaluation of a Web of Things Simulation Framework

Researched simulating various IoT devices (Things) and proposed my own approach on simulating Things in the simulation environment (OpenFOAM) in (near) "real-time". (**Python / TypeScript / NodeJS / Flask RESTful / Docker / IoT**)

### Research Internship (Internship)

3 months 05.04.2021 — 25.06.2021

📍 TUM (Munich, Germany)

Topic: Run-Time Service Migration in Incrementally Granular Industrial Web of Things Systems

- Developed SW with several abstraction layers for Fischertechnik toy factory (**TypeScript / NodeJS / WoT / IoT**)
- Researched the possibility of migrating the abstraction layers to other devices (edges) at run-time, which was successfully implemented

### Electronic Design Engineer

7 months 03.07.2017 — 18.01.2018

📍 Modern Steel (Chelyabinsk, Russia)

- Developed SW for pellet boiler control systems (**C++ / Assembly**)
- **Electric Circuit Design** and assembly of pellet boiler control systems

## Projects

### Personal Website 📍 Website, 📍 GitHub

3 years 01.05.2023 — Current

Developed a personal website primarily for displaying/customizing/generating PDFs of my own Curriculum Vitae (CV). (**TypeScript / NextJS / SASS / MongoDB / Nginx / Docker**)

### Cafe Website 📍 Website, 📍 GitHub

1 year and 3 months 06.06.2022 — 02.09.2023

Developed a cafe website using **Django Framework**. Features are continuously integrated according to the client needs

### Telegram-Connected RT Website Chat 📍 GitHub, 📍 TG-Chat Implemented

1 month 03.06.2022 — 09.07.2022

Developed a flexible SW for forwarding messages between a website chat and a telegram bot. (**Python / Websockets / MongoDB / Redis / Docker / Nginx**)

### Cafe HVAC v2 📍 WoT GitHub, 📍 Flask GitHub, 📍 React GitHub

8 days 02.01.2022 — 09.01.2022

Upgraded the previous HVAC system to provide a web control. The display and encoder were removed, the microcontroller was replaced with Raspberry Pi Zero. A simple interface based on React was created for a simple UI. A middleware Flask Server was created according to the customer needs. (**Python / TypeScript / React / IoT / Raspberry Pi Zero**)

### Cafe HVAC

1 month 02.06.2019 — 04.07.2019

Developed HW and SW for an HVAC system for a cafe. The controller had a display and an encoder for user interface, temperature sensors and valves for observing and controlling the HVAC. (C / ATmega328P / PCB Design / Bluetooth)

### Car Bluetooth RGB

4 months 01.04.2018 — 29.07.2018

Developed HW and SW for RGB LED control via Bluetooth. The system was successfully integrated into the car and was controllable via phone. (C / ATmega328P / PCB Design / Bluetooth)

### Smart Window Opener

2 days 21.04.2018 — 22.04.2018

Participated in the local Hackathon with my friends where I developed HW and SW for controlling the stepper motor via Bluetooth. (C / ATmega328P / Bluetooth)

## Education

### M.Sc. in Power Engineering

2 years and 6 months 01.10.2019 — 31.03.2022

Technical University of Munich (Munich, Germany)

Grade: 2.1/1.0, Topic: Development and Evaluation of Web of Things Simulation Framework

- Renewable Energy Systems
- Energy Storage Systems (ESS), including BMS
- Cyber-Physical Systems (State Machines / Automatas)
- Internet of Things (IoT) where I learned new standards like Web of Things (WoT) and a WoT Scripting API for it

### Qualification in Python Dev.

1 year and 9 months 08.06.2020 — 24.02.2022

GeekBrains (Online)

Topic: Head Hunter Webiste

My final project for a head hunting website (GitHub Link).

Python / Django / Django REST + React / MySQL / MongoDB / VueJS / PyQT

### B.Sc. in Electrical Engineering

3 years and 10 months 01.09.2015 — 20.06.2019

South Ural State University (Chelyabinsk, Russia)

Grade: 5/5, Topic: Design of an Electric Drive for the Movement of an Overhead Crane Trolley

- Electronics
- Electric Drives
- Low-Level Programming (C / Assembly Language)

## Publications

### WoT-Phyng-Sim: Integrating Physics Simulations with IoT Digital Twins using the Web of Things

Jul 2023

IEEE COINS 2023

## Certifications

5G Network Fundamentals [GeekBrains](#), Credentials A3LQ3WACWZ3A

Oct 2023

4G Network Fundamentals [GeekBrains](#), Credentials XUAK3SPVGM3H

Sep 2023

Real-Time Embedded Systems Theory and Analysis [GeekBrains](#)

Mar 2023

Agile/Scrum [GeekBrains](#), Credentials 1698504

Feb 2022

Methods of Collecting and Processing Data from the Internet [GeekBrains](#), Credentials 1686932

Feb 2022

Architectural and Design Patterns in Python [GeekBrains](#), Credentials 1555153

Dec 2021

Python. PyQT [GeekBrains](#), Credentials 1437567

Oct 2021

Django REST Framework [GeekBrains](#), Credentials 1412681

Oct 2021

Client-Server Applications in Python [GeekBrains](#), Credentials 1302871

Jun 2021

JavaScript. Advanced Level [GeekBrains](#), Credentials 1259430

May 2021

Django Framework. Tools for Optimization [GeekBrains](#), Credentials 1225656

Apr 2021

Basics of Django Framework [GeekBrains](#), Credentials 1182190

Mar 2021

Fundamentals of Relational Databases. MySQL [GeekBrains](#), Credentials 986834

Oct 2020

Computer Networks [GeekBrains](#), Credentials 903250

Jul 2020

## Hobbies

Language Learning | Programming | Tinkering Devices | Billiards | Photography (Past Professional) | Table Tennis