

#### Anatolii Tsirkunenko

**4** 24.11.1997(27 years)

**M** 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, Unit Test, Software Architecture, Clean Code **Embedded** CAN, CANOpen, UART, SPI, I2C, EtherCAT, Wi-Fi, TCP/UDP, RS485, RTOS

**Web** React, NextJS, Django (REST), Docker, Nginx, MongoDB, SQL, NodeJS, Websockets, HTML/CSS, SASS **Technologies** BMS, IoT, Cellular Protocols, ISO26262, GoogleTest

**Programs** SEGGER, Enterprise Architect, CANalyzer, PCAN-Explorer, CANopen Explorer, MATLAB/Simulink **Languages** English - C1, German - C1, Russian - Native

# Work Experience

## **Cellular Software Engineer**

1 year and 3 months 15.12.2023 — Current

☑ Apple Inc. (Munich, Germany)

- Developed SW for Apple C1+ Modem (C / Cellular)
- Analyzed and fixed SW issues across Layer 1 (C / Traces Analysis)
- Brought up Unit Testing for Layer 1 (GoogleTest)
- Developed 2 Verification Frameworks for Layer 1&2 (C / Python)
- Developed multiple scripts for work optimization/automations (Python / Shell)

## **Embedded Software Developer BMS**

3 years and 9 months 02.03.2020 — 29.11.2023

[설 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

ITUM (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

# **L** Projects

#### Personal Website 2 Website, 2 GitHub

1 year and 10 months 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

☑ IEEE COINS 2023

# **Q** Certifications

<b>5G Network Fundamentals</b> ☑ Coursera, Credentials A3LQ3WACWZ3A	Oct 2023
<b>4G Network Fundamentals</b> ☑ Coursera, Credentials XUAK3SPVGM3H	Sep 2023
Real-Time Embedded Systems Theory and Analysis 🗷 Coursera	Mar 2023
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
Django REST Framework ☑ GeekBrains, Credentials 1412681	Oct 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