Anatolii Tsirkunenko

- 24.11.1997 (28 years)
- Munich, Germany
- anatolii@tsi-ko.com
- 🔗 🌐 🐙 in

📄 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 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
2 years and 8 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
Jul 2023

⬈ IEEE COINS 2023

🏅 Certifications

5G Network Fundamentals ⬈ Coursera, Credentials A3LQ3WACWZ3A — Oct 2023

4G Network Fundamentals ⬈ Coursera, Credentials XUAK3SPVGM3H — Sep 2023

Real-Time Embedded Systems Theory and Analysis ⬈ Coursera — 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