Gyokhan Kochmarla Software Engineer

✉ hello@gyokhan.com

📍 Leipzig, Germany

in/gokhankocmarli

🔗 gyokhan.com

📞 +49 162 3348183

📅 02 Nov 2001

electricalgorithm

🏳 Bulgarian, Turkish - full working permission in Germany

PROFESSIONAL EXPERIENCE

Jul 2023 – Oct 2024
Istanbul, Turkey

Embedded & Firmware Software Engineer
Accenture Industry X 🔗
- Engineered Python/C++ solutions for high-tech international client, completing 3 diverse projects in 11 months, progressing from orchestration mechanisms in Linux workstations to PetaLinux OTA updates on Xilinx FPGA platforms.
- Deployed AI LLM solutions, developed an onboarding RAG chatbot with 10,000+ line C++ code and technical documents, and enhanced a LangChain test suite with a 38% speed increase.
- Engineered computer vision solutions for Universal Robotics, utilizing OpenCV, fine-tuning AI vision models, performing image processing techniques, and optimising cameras using driver stacks within Linux environments

Oct 2023 – Oct 2024
Istanbul, Turkey

Graduate Researcher (Part-Time)
Marmara University - Holographic Imagining Laboratuary
- Research and development on state-of-the-art super-resolution models. Transfer learning on HAT, ESRGAN, and BasicSR models.
- Pre- and post-processing for video applications using FFmpeg.
- Strong focus on holographical imagining, and image enhancement on inline and off-axis holography.

Aug 2022 – May 2023
Istanbul, Turkey,
(Remote)

Embedded Software R&D Engineer
Sixfab Inc. 🔗
- Led development of open-source TCP/IP layer in MicroPython, enabling cellular connectivity for 1000+ RP2040-based devices.
- Built hardware-in-loop test infrastructure on Raspberry Pi, automating GNSS/LTE/GSM performance evaluation for 100+ RP2040 & Quectel boards at a rate of ~250 tests/min across 5 countries.
- Developed an eSIM provisioning tool for Sixfab Core, enabling OTA SIM management and leveraging smart-card technology, SGP22, and APDU protocol.

Aug 2022 – Sep 2022
Istanbul, Turkey

Image Processing and Computer Vision Intern
YongaTek Microelectronics 🔗
- Performed fine-tuning for the open-source vision models. Achieved 15 FPS with the YOLOv5 model.
- Developed a real-time image-processing algorithm for mass mirror production where the quality control was reduced to 2 minutes/sample.

| Apr 2022 – Aug 2022 | **Embedded Software Engineering Intern** |
| Istanbul, Turkey, (Remote) | *Sixfab Inc.* 🔗 |

- Introduced to cellular technologies using AT communication protocol, experienced TELIT and Quectel modems.
- Developed MQTT library using Pico C SDK with SIM 3G network registration.

| Apr 2020 – Oct 2021 | **Undergraduate Student Researcher (Part-Time)** |
| Istanbul, Turkey | *İstanbul University - Cerrahpasa | Sustainable Energy Research Lab* 🔗 |

- Management of governmentally funded projects spanning 6 and 12 months.
- Participated development of embedded systems, NodeJS back-end applications and mobile applications.

EDUCATION

| Sep 2020 – Jul 2024 | **BEng. Electrical & Electronics Engineering** |
| Istanbul, Turkey | *Marmara University* 🔗 |

High-honours degree with 3.57/4.00 GPA.

| Sep 2021 – Jul 2022 | **Faculty of Electrical Enginering, Exchange Studies, 1-Year Period** |
| Szczecin, Poland | *West Pomeranian University of Technology in Szcecin* 🔗 |

SKILLS

Embedded Linux Application Development • RP2040, ESP32, nRF91 • Zephyr RTOS •

Large Language Models • Computer Vision • Industrial IoT (LTE / BLE / WiFi / GPS) •

Python, Modern C++, MATLAB • SCRUM Methodology • Project Management & Client Relations

PUBLICATIONS

| Aug 2024 | **Performance Comparison Index for Image Super-Resolution Models** 🔗 |
| | *Springer Nature - Signal, Image and Video Processing* |

OPEN SOURCE PROJECTS

| Nov 2023 – Apr 2024 | **Home Security System on Raspberry Pi with EfficientDet** 🔗 |
| Jun 2023 – Jan 2024 | **Anomaly Detection on Diesel Engines for Public Transportation** 🔗 |

REFERENCES

Yasin Kaya, *R&D Director of Embedded Software,* Sixfab Inc.
yasin@sixfab.com

Atakan Çelik, *Embedded Systems Team Lead,* Accenture Industry X
atakan.celik@accenture.com

Gökhan Bora Esmer, *Prof. Dr.,* Marmara University
bora.esmer@marmara.edu.tr

LANGUAGES

English — Professional Working Proficiency

Turkish — Native Language

Gyokhan Kochmarla
14/10/2024