Veysi ADIN

Nationality: Turkish **Date of birth:** 17/02/1998 **Gender:** Male

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ABOUT ME

Hey! I'm an **Embedded Software Engineer** with over three years of experience in developing and testing software for various embedded systems. I have expertise in C, C++, and Python programming languages, as well as in hardware architectures, operating systems, and communication protocols. I worked on projects involving robotics, medical devices, and consumer electronic products, delivering high-quality, safe, and reliable software solutions. Having obtained a master's degree in robotics and control software development, I enjoy robotics, electronics, DIY projects, and learning new things every day. I like to develop applications that solve real-life problems.

WORK EXPERIENCE

Software Engineer

Volvo Cars AB [21/04/2024 – Current]

City: Lund | **Country:** Sweden

Software Engineering Consultant

Sigma Connectivity Engineering AB [21/03/2024 – Current]

City: Lund | **Country:** Sweden

Firmware Developer

Epitome [25/10/2023 – 24/01/2024]

City: Vienna | **Country:** Austria

• Implementing and testing drivers for fingerprint reader, ToF sensor and stepper motor, based on requirements.
• Testing the main firmware and contributing code quality by review.
• Delivering product within specific deadline.
Technologies: Embedded C, C++ Python, Jira, Git, STM32 Microcontrollers, CI/CD

Research Assistant

ETH Zürich [01/07/2023 – 30/09/2023]

City: Zürich | **Country:** Switzerland

• Worked on NATO project for gunshot detection and localization using machine learning on low cost ISPUs.

Research Assistant

Mid Sweden University [01/09/2022 – 30/09/2023]

City: Sundsvall | **Country:** Sweden

• Worked on several research projects including acoustic emission signal classification, postural sway analysis using machine learning, and gunshot and explosion detection using TinyML frameworks and ISPUs.
• Implemented the machine learning models for mentioned projects deployed to target microcontrollers and authored and published four research articles with the research team.
Technologies: Python, TensorFlow, TensorFlow Lite for Microcontrollers, C

Research Assistant

Korea Institute of Science and Technology [01/09/2020 – 31/08/2022]

City: Seoul | **Country:** South Korea

• Worked on development of control framework for medical robots, using EtherCAT protocol based on CiA402 standard and ROS2 as a middleware running on real-time Linux.
• As a use case for this control framework, we tested our framework on spine surgery robot being developed in Healthcare Robotics Center.
• Designed several PCBs, including safety watchdog PCB, and a flexible PCB for measuring force on the tip of attached instrument to spine surgery robot.
• Worked on safety and verification of medical robot and medical robot software complying various standards, including IEC62304, IEC60601-1/2, ISO 13485.
Technologies: C, C++, Qt, RT-Linux, Altium Designer, EtherCAT, ROS, Python, Git
● Project GitHub Link
● Project Documentation Link

R&D Engineer

Medicaretec [06/01/2020 – 31/08/2022]

City: Seoul | **Country:** South Korea

• Worked with a start-up company to implement control software and an initial prototype of a medical device called microdebrider, which is used in endoscopic sinus surgeries.
• IEC 62304 Medical device software – Software life cycle
• IEC 60601 Safety and essential performance of medical electrical equipment
• IEC 61508 Methods on how to apply, design, deploy and maintain safety-related systems
Technologies: C++, C, Qt, CiA402, Git, Doxygen, CAN protocol, SolidWorks
● Project GitHub Link
● Project Documentation Link

EDUCATION AND TRAINING

Electronics Ph.D.

Mid Sweden University [01/09/2022 – Current]

City: Sundsvall | **Country:** Sweden | **Website:** https://miun.se/

AI & Robotics Master

University of Science and Technology / Korea Institute of Science and Technology [01/09/2020 – 31/08/2022]

Address: 02792 Seoul (South Korea) | **Website:** https://ust.ac.kr/eng.do | **Final grade:** 4.33/4.5 | **Thesis:** Development of Medical Device Control Software Framework

Electrical & Electronics Engineer

Mersin University [01/09/2015 – 24/05/2019]

Address: 33110 Mersin (Türkiye) | **Final grade:** 3.67/4 | **Thesis:** Wi-Fi Controlled Natural Gas Valve System With Android Based Software

LANGUAGE SKILLS

Mother tongue(s): Kurdish | Turkish

Other language(s):

English

LISTENING C2 **READING** C2 **WRITING** C2

SPOKEN PRODUCTION C2 **SPOKEN INTERACTION** C2

Korean

LISTENING B1 **READING** B1 **WRITING** A2

SPOKEN PRODUCTION B1 **SPOKEN INTERACTION** B1

Levels: A1 and A2: Basic user; B1 and B2: Independent user; C1 and C2: Proficient user

DIGITAL SKILLS

AI / Machine Learning / Deep Learning

Python / Tensorflow / PyTorch / ONNX & ONNX Runtime / MATLAB / Julia / Pandas Numpy Scikit-learn Scipy libraries

Embedded System Design

C / C++ / Qt / STM32 / Altium Designer / Proteus / PCB Design

Prototyping Products

SolidWorks / SMD soldering / Arduino / Raspberry Pi

Others

LaTeX / EtherCAT / CiA 402 / Git / ROS/ROS2 / Real-time Linux / CI/CD (Jenkins, Zuul) / Ansible

CONFERENCES AND SEMINARS

[23/08/2023 – 23/08/2023] IEEE Transactions on Instrumentation and Measurement

Leveraging Acoustic Emission and Machine Learning for Concrete Materials Damage Classification on Embedded Devices

Link: https://ieeexplore.ieee.org/document/10227301

[18/07/2023 – 20/07/2023] IEEE Sensors Applications Symposium (SAS), 2023, Ottawa, Canada

Real-Time Acoustic Monitoring of Foraging Behavior of Grazing Cattle Using Low-Power Embedded Devices

Link: https://ieeexplore.ieee.org/abstract/document/10254175/

[18/07/2023 – 20/07/2023] IEEE Sensors Applications Symposium (SAS), 2023, Ottawa, Canada

Tiny Machine Learning for Real-time Postural Stability Analysis

Link: https://ieeexplore.ieee.org/abstract/document/10254126

[22/05/2023 – 25/05/2023] IEEE International Instrumentation and Measurement Conference (I2MTC), 2023,Kuala Lumpur, Malaysia

Tiny Machine Learning for Damage Classification in Concrete Using Acoustic Emission Signals

Link: https://ieeexplore.ieee.org/document/10175972

[08/12/2021 – 10/12/2021] The 17th Asian Conference on Computer Aided Surgery (ACCAS) / Virtual Conference

Development of Control Framework for Spine Surgery Robot Using EtherCAT

Link: https://github.com/veysiadn/veysiadn.github.io/raw/master/assets/pdf/ACCAS2021_VeysiADIN_ChunwooKim.pdf

[19/05/2021 – 21/05/2021] Seoul, South Korea / Korea Robotics Society Conference (KRoC)

Development of motor control component for medical robot software framework based on EtherCAT

Link: https://arxiv.org/abs/2401.08583

[11/04/2024 – 11/04/2024] Minimally Invasive Therapy & Allied Technologies

Camera sheath with transformable head for minimally invasive surgical instruments

Link: https://www.tandfonline.com/doi/abs/10.1080/13645706.2024.2335540

[12/03/2024 – 12/03/2024] IEEE Transactions on Instrumentation and Measurement

On-Device Feeding Behavior Analysis of Grazing Cattle

Link: https://ieeexplore.ieee.org/abstract/document/10471388/

HONOURS AND AWARDS

[24/05/2019] Mersin University Engineering Faculty

Valedictorian of Engineering Faculty I have ranked first among the faculty of engineering students graduating in 2019.

[01/09/2016] Vehbi Koc Foundation

Scholarship

HOBBIES AND INTERESTS

Hobbies Basketball, football, hobby electronics, 3D printing, cooking, Sci-Fi movies and books.