



Kamil Machnicki

SENIOR SOFTWARE DEVELOPER · CREATIVE TECHNOLOGY ARCHITECT

Wrocław, Poland

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Summary

Senior software developer with nearly a decade of expertise across diverse industries with a proven track record in automotive, medical, AI, embedded systems, telecommunication, and mixed reality projects. Proficient in creating intuitive user interfaces using the Qt framework and extensive experience in developing C++ software for embedded systems.

I'm highly motivated to continue working with modern C++ and leading innovative projects.
Plus, I know how to quit vim.

Skills

Advanced C++ 11/14/17/20, Qt, QML, Git, HMI, UI, Embedded systems, Design patterns, VR/XR

Intermediate Unreal Engine 5, Linux, Unix Shell, Python, Node.js

Tools STL, Boost, GStreamer, ZMQ, Protobuf, Gtest, Gmock, Clang, Valgrind, Cppcheck, Figma, Zeplin

Languages Polish (native), English (C2), German (B1), Russian (A1)

Experience

Creative Technology Architect

Wrocław, Poland

SIILI SOLUTIONS / EPIC GAMES

Mar. 2023 - Present

- C++ 17, Unreal Engine 5, Kanzi, CarMaker, Virtual Reality, Mixed Reality.
- Led the creation of an automotive HMI Mixed Reality car simulator, overseeing architecture design and physical prototype construction.
- Integrated the mixed reality Varjo XR-3 headset and employed various 3D rendering frameworks to bridge the physical and virtual realms.

Senior C++ Software Engineer

Wrocław, Poland

SIILI SOLUTIONS / RIMAC AUTOMOBILI

Aug. 2021 - Feb. 2023

- C++ 17, Qt 5, QML, UI, Embedded system.
- Contributed to Infotainment HMI development using Qt and C++, encompassing UI and middleware throughout the software lifecycle.
- Managed an embedded Toradex i.MX 8 hardware, designed GStreamer-based video playback, gaining automotive & Functional Safety expertise.

Senior C++ Software Engineer

Wrocław, Poland

SII POLAND / QIAGEN

Nov. 2018 - Jul. 2021

- C++ 17, Qt 4, QWidgets, UI, Embedded system.
- Core team member developing UI & control software for automated DNA/RNA purification instrument; involved from inception to market launch.
- Gained expertise in molecular diagnostics, medical biology, digital electronics, signal processing and hardware interfacing with Toradex i.MX 6.

C++ Software Engineer

Wrocław, Poland

NOKIA NETWORKS

Jul. 2014 - Jan. 2018

- C++ 11/14, STL, Boost, Python, Node.js, Embedded system.
- Developed embedded functionalities in C++ for radio transceivers, collaborating with multinational teams in Scrum methodology.
- Worked on backend services in Node.js, Python scripting, and had expertise in 2G/3G/4G radio technology standards (GSM, WCDMA, LTE).

Achievements

Unreal Fest 2023 by Epic Games

New Orleans, USA

PRESENTER FOR: DESIGNING AUTOMOTIVE HMI USING XR

Oct. 2023

Showcased the HMI Mixed Reality car simulator prototype and its technology on stage, with the recording accessible on Unreal Engine's YouTube.

Mercedes internal demo

Stuttgart, Germany

HMI MIXED REALITY CAR SIMULATOR PROTOTYPE DEMO

Jul. 2023

Demonstrated the second iteration of HMI Mixed Reality car simulator prototype to the client.

Great Wall Motor internal demo

Munich, Germany

HMI MIXED REALITY CAR SIMULATOR PROTOTYPE DEMO

May 2023

Presented the first iteration of HMI Mixed Reality car simulator prototype, set it up and handed it over to the client.

Education

Wrocław University of Science and Technology

M.Sc. IN COMPUTER SCIENCE AT ELECTRONICS DEPARTMENT, APPLIED COMPUTER ENGINEERING IN MEDICINE SPECIALIZATION

Developed numerous projects regarding Machine Learning and Artificial Intelligence in Python.

Wrocław, Poland

Feb. 2016 - Sep. 2017

Wrocław University of Science and Technology

B.Sc. IN COMPUTER SCIENCE AT ELECTRONICS DEPARTMENT, INTERNET ENGINEERING SPECIALIZATION

Wrocław, Poland

Was an active member of a game development academic club TKGames, where I've done projects in Unreal Engine 4, Unity 3D and STL.

Sep. 2012 - Feb. 2016

Notable projects

Blood morphology test results grapher

PYTHON, OCR, MATPLOTLIB, PLOTLY

2020

Python-based project to generate graphical representations of blood morphology test results

Car driver control using machine learning algorithms in a video racing simulator.

PYTHON, MACHINE LEARNING, ARTIFICIAL INTELLIGENCE, REINFORCEMENT LEARNING, KERAS, TENSORFLOW

2017

Researching algorithms capable of learning how to drive a car in a race simulator.

Web portal for editing, compiling and running C++ code, with code quality metrics

C++, PYTHON, SANDBOXING, VIRTUALIZATION, CONTAINERS, DOCKER, VAGRANT, CODE LINTING

2016

Created a portal for remote code execution with additional static and dynamic source assessment.

Certificates

- 2023 **Unreal Engine 5 C++: The Ultimate Game Developer Course**, Stephen Ulibarri
- 2023 **Unreal Engine 5 C++ Developer: Learn C++ & Make Video Games**, GameDev.tv / Ben Tristem
- 2022 **System architecture for automotive embedded devices**, Sages
- 2018 **Permission to operate electric devices of voltage up to 1kV**, SEP (Polish Society of Electricians)
- 2017 **Design Patterns in C++ 14**, Infotraining
- 2016 **ISTQB Certified Tester Foundation Level**, Polish Testing Board
- 2014 **Practical Aspects of Software Development**, Nokia Networks
- 2014 **CCNA Routing and Switching: Introduction to Networks**, Cisco Networking Academy

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