



Marius Cetateanu

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● ABOUT ME

I am a software engineer with more than 18 years of experience and an innovative problem solver passionate about leveraging technology for transformative solutions. With a diverse background in software development, in different domains and environments, in both individual contributor and tech leadership roles, I thrive in dynamic environments where I can apply my expertise to drive impactful outcomes. I am committed to continuous learning and driven by a curiosity for emerging trends, I possess a strong track record of delivering results. I like to work aside team members from whom I can learn in order to improve my skills and to whom I can share my knowledge in a deep spirit of collaboration.

● DIGITAL SKILLS

Programming Languages

C | C++ | Python | Golang | Java | Javascript | Assembly(x86, ARM) | Rust (Programming Language) | SQL

Techniques

OOP | Design Patterns | TDD | Multithreading | Parallel Programming | SIMD Optimization | Machine Learning

● WORK EXPERIENCE

24/04/2023 – CURRENT Sint Genesius Rode, Belgium

SOFTWARE DEVELOPMENT LEAD POWERDALE

I have joined Powerdale as their Software Development Lead in order to architect the migration to the cloud of their EV Mobility Platform Nexxtmove.

25/07/2022 – 14/04/2023 Brussels, Belgium

SOFTWARE DEVELOPMENT ENGINEER AWS

I joined the AWS Identity organization to build the future of authorization services. In that role I helped my team on their path to launch a new AWS service - [Amazon Verified Permissions](#).

05/09/2021 – 24/07/2022 Luxembourg, Luxembourg

SOFTWARE DEVELOPMENT ENGINEER AMAZON

Helped with the effort to expand Amazon globally as part of the INTEX organization.
Participated in the launch of the new Belgium Amazon marketplace at amazon.com.be

10/06/2019 – 19/08/2021 La Hulpe, Belgium

SENIOR SOFTWARE ENGINEER SWIFT

- Participation in projects related to the European single market infrastructure ESMIG
- Design, implementation and maintenance of functionalities and features of software products related to the SWIFT IPsec network(Alliance Gateway, Alliance Remote Gateway).
- Definition and implementation of project management practices - Agile methodologies - as part of SWIFT's Agile transformation.

31/03/2017 – 27/02/2019 Brussels, Belgium

SENIOR SOFTWARE ENGINEER SONY DEPTHSENSING SOLUTIONS (F.K.A. SOFTKINETIC)

- Administered small HPC cluster using SLURM as the scheduler and Warewulf as the provisioning system.
- Designed and implemented features for 3D sensing middle-ware for car in-cabin gesture recognition and monitoring.
- Implemented parallelization of internal software tools for processing machine learning related data and training classifier models.
- Optimized 3D sensor data processing libraries for better performance on ARMv7 platform.

31/05/2014 – 30/03/2017 Brussels, Belgium

SENIOR SOFTWARE ENGINEER SOFTKINETIC

- Had a major role in the definition and implementation of internal coding style standards and guidelines.
- Designed, configured and deployed a small scale HPC cluster for using in machine learning related tasks.
- Ported and optimized a machine learning based hand pose classifier for in-cabin gesture recognition.
- Implemented the C API for the 3D sensor image filtering library.
- Designed and developed low level optimizations and algorithm improvements for the 3D sensing middle-ware for car in-cabin gesture recognition.
- Developed the Python bindings of the library implementing the computational pipeline for the 3D sensors and cameras.
- Designed and developed the library that implemented the computational pipeline for all the SoftKinetic 3D sensors and cameras - transformations of the raw sensor data, depthmap computation, filtering.
- I was the technical lead regarding porting, optimizations(SIMD & GPU) and multithreading aspects of the Human Tracking Library, a library for multi-user 3D full-body tracking using a depth camera sensor, for the PlayStation 4 console. I designed and implemented the software pipeline system of the library in order to achieve optimal performance on the PlayStation 4's hardware. The library was used in the Just Dance series of games developed by Ubisoft.
- Designed and developed an instrumenting profiler used to measure the performance of the SoftKinetic libraries.

04/07/2010 – 30/05/2014 Brussels, Belgium

SOFTWARE ENGINEER SOFTKINETIC

- Designed and developed a Linux kernel device driver to control the custom 3D sensing camera and optimized the image processing algorithms of the CarLib library, used for in-cabin gesture recognition inside the 2015 BMW Series 7 car.
- Ported the SoftKinetic iisu(interface is u) middle-ware to Android. Developed Android applications to showcase the usage of iisu.
- Designed and developed a SIMD acceleration library covering x86 and ARMv7 processor architectures - similar to the current proposal for C++ library standardization. The library provided a thin and virtually no overhead layer on top of SIMD(Single Instruction Multiple Data) compiler intrinsics for x86 SSE and ARMv7 NEON instruction sets. The library was and is the basis for all low level optimizations across all SoftKinetic/Sony DepthSensing Solutions libraries. It paved the way for the company's products to be used inside embedded devices, phones & cars.
- Optimized the SoftKinetic iisu middle-ware for the ARMv7 architecture's NEON SIMD co-processor.
- Developed a basic build system based on CMake and shell scripts to build the SoftKinetic libraries on x86 and ARM Linux platforms.
- Developed features for the SoftKinetic middle-ware(iisu) used in a complete 3D system camera that had all processing done on the camera itself with the final 3D depthmap streamed via network connection.
- Ported the iisu middle-ware to the ARM9 and ARMv7 architectures.
- Developed enhancements of image processing algorithms using the iMX hardware accelerator of the Texas Instruments DM365 processor.

28/02/2006 – 10/06/2010 Bucharest, Romania

SOFTWARE DEVELOPMENT ENGINEER FREESCALE SEMICONDUCTOR

- Evangelized proper coding style and usage of code documentation across the team and department.
- Developed features for the trace and profiling tools for the various Freescale supported architectures.

- Developed & maintained various features of the ARM debugger for the Code Warrior IDE. In that role I helped my team through three successful major release cycles.
- Designed and developed the ARM Debugger's Linux kernel & module debugging plug-ins and the corresponding Eclipse IDE plug-ins.
- Designed and developed various Eclipse IDE plugins: ARM tool chain integration plug-in and the ARM elf importer wizard.
- Collaborated on various core debugger features: e.g. enhanced the watchpoints and the cache viewer features.

07/11/2004 – 15/02/2006 Sibiu, Romania

SOFTWARE DEVELOPMENT ENGINEER CONTINENTAL AUTOMOTIVE SYSTEMS

- Developed features for a PC hosted control panel for the in-house XDL Measurement System application that handled the firmware download and configuration over USB for a hardware probe used to diagnose and test the ABS ECU(Electronic Control Unit).
- Developed and maintained firmware for the XDL hardware probe and developed a C API for communication with a cryptographic EEPROM inside the hardware probe.
- Enhanced and maintained the Windows USB driver used for communication with the XDL hardware probe.
- Implemented and maintained the testing tools for the ABS(Anti-lock Brake System) systems.

● **EDUCATION AND TRAINING**

07/11/2021 – 12/12/2021

MODELS IN ENGINEERING MIT via MIT xPro

28/09/2021 – 31/10/2021

ARCHITECTURE OF COMPLEX SYSTEMS MIT via MIT xPro

30/09/1999 – 29/06/2004

DIPLOMAT ENGINEER(MSC) IN COMPUTER ENGINEERING Gheorghe Asachi Technical University, Iasi, Romania

● **LANGUAGE SKILLS**

Mother tongue(s): **ROMANIAN**

Other language(s):

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken production	Spoken interaction	
ENGLISH	C2	C2	C2	C2	C2
FRENCH	C2	C2	B2	C1	B2
ITALIAN	B2	B2	A2	B1	A2

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