SOFTWARE SYSTEMS ENGINEER / C++ / ROBOTICS / FINTECH

Alexandru Cristian Zamfir

C++ Software Engineer | Robotics, Fintech & Distributed Systems

Alexzamfir94@gmail.com | +40 748 044 806 | alexandruzamfir.pages.dev

PROFILE

C++-grounded Software Systems Engineer experienced in high-reliability financial software and bipedal humanoid robotics. Combines systems programming, distributed architecture, real-time communication, Linux administration and database work to deliver secure, observable, production-ready solutions. Actively pursuing robotics opportunities where software, control and hardware meet.

01 CORE STRENGTHS

ROBOTICS
ROS 2, locomotion, control, perception, navigation.

C++ SYSTEMS
Performance, OOP, threads, debugging, integration.

FINTECH
Payments, transactions, compliance, security.

PLATFORM FLUENCY
Linux, AIX, Windows, SQL, databases, CI/CD.

02 PROFESSIONAL EXPERIENCE

Software Systems Engineer - Robotics
OCT 2025 - PRESENT

Love Death & Robots SRL | Bucharest, Romania

- Design and develop modular ROS 2 software for bipedal humanoid platforms, coordinating distributed sensors,
- actuators and control nodes through topics, services and actions.
- Build control architectures for bipedal locomotion, gait generation, inverse kinematics, whole-body control and balance.
- Integrate LiDAR, cameras, IMUs and joint actuators; develop sensor fusion, computer vision, SLAM and navigation pipelines.
- Use NVIDIA Isaac Sim, MuJoCo and Gazebo for reinforcement-learning workflows, simulation validation and sim-to-real transfer.
- Work with EtherCAT for low-latency joint control and CAN bus for diagnostics, debugging and low-level data acquisition.
- Contribute to hardware integration: mechanical assembly, electrical cabling, power distribution and actuator calibration.

ROS 2 C++ REAL-TIME SYSTEMS ETHERCAT SLAM SIM-TO-REAL

Software Developer
JUL 2018 - SEP 2025

Allevo | Bucharest, Romania

- Developed high-reliability financial software for interbank payments, ISO 20022, SWIFT, SEPA and regulatory compliance.
- Continuously profiled and optimized message processing; 1-2 ms improvements per message mattered at high payment volumes.
- Built and maintained C, C++, C#, Python and Shell components with focus on performance, maintainability and production support.
- Implemented PKI-based cryptography: encryption, digital signatures, RSA/ECDSA and secure system-to-system communication.
- Integrated IBM WebSphere MQ, RabbitMQ, ActiveMQ and JMS for traceable, event-driven enterprise message flows.
- Designed SQL data pipelines and worked with Linux, Docker, CI/CD, deployment scripting, monitoring and Agile delivery.

C++ ISO 20022 SWIFT/SEPA PKI DOCKER JENKINS

Early Engineering Experience
2015 - 2016

Siemens and PwC | Bucharest, Romania

- Contributed to software for hardware control units, database transfer, data processing and information-security policy checks.

Technical Landscape

A broad systems background, applied with a robotics-first direction.

03 ENGINEERING STACK

Programming and Systems Engineering

C++, C, C#, Python, Java, JavaScript, PHP, Bash / Shell. Object-oriented programming, multithreading, debugging, code quality, version control and automated testing.

Robotics, Perception and AI

ROS 2, MoveIt, URDF/Xacro, DDS, NVIDIA Isaac Sim, MuJoCo, Gazebo, RViz, OpenCV, TensorFlow, CUDA, NVIDIA Jetson, real-time Linux. Inverse kinematics, whole-body control, ZMP balance, sensor fusion, SLAM, reinforcement learning (PPO/SAC), HRI and microcontrollers.

Industrial and Enterprise Integration

EtherCAT, CAN bus, IBM WebSphere MQ, RabbitMQ, ActiveMQ, JMS. Distributed systems, real-time data paths, low-latency control, secure communication and diagnostic workflows.

Security and Financial Systems

ISO 20022, SWIFT, SEPA and transaction processing, PKI, RSA/ECDSA, encryption and digital signatures, compliance-oriented development and traceable exchange.

04 OPERATING SYSTEMS & DATA

Operating Systems and Infrastructure

Ubuntu, Red Hat Enterprise Linux, CentOS, OpenSUSE, IBM AIX and Windows. Deployment scripting, monitoring and secure configuration.

Databases and SQL

Oracle, PostgreSQL, MySQL and IBM databases. SQL development, index tuning, stored procedures and data pipeline integration.

05 DELIVERY TOOLING

Build, Delivery and Collaboration

Git, GitHub, SVN, Jenkins, Docker, IntelliJ IDEA, Visual Studio, Eclipse and VS Code. CI/CD, build automation and Agile collaboration.

Web and Cloud Foundations

HTML, CSS and JavaScript; Java EE and .NET; service-oriented architecture; foundational Kubernetes/AWS.

06 EDUCATION

Master’s Degree - Advanced Software Systems

Polytechnic University of Bucharest | 2020 - 2021

Bachelor’s Degree - Computers and Defence Systems

Military Technical Academy | 2014 - 2018

07 ADDITIONAL INFORMATION

Languages

English: Advanced | Spanish: Beginner
French: Beginner

Professional Approach

Continuous learner, creative problem solver, team-oriented collaborator and mentor.

Mobility

Bucharest, Romania | Category B licence
Open to travel

08 KEYWORD INDEX

C++ / ROBOTICS / ROS 2 / FINTECH
PAYMENTS / LINUX / REAL-TIME SYSTEMS
DISTRIBUTED SYSTEMS / ETHERCAT / CAN BUS
IBM MQ / SQL / ORACLE / POSTGRESQL
MYSQL / CI/CD / JENKINS / SLAM
COMPUTER VISION / AI/ML

09 CONTACT

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Click a contact line to open its destination.

Selected Development Areas

Robotic software, bipedal locomotion, sensor fusion, navigation, financial services and secure messaging. Database integration, Linux systems and performance C++.