

BUTACU IONEL-CATALIN

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PROFESSIONAL SUMMARY

C++ Software Engineer (3+ years) with a computer engineering background, now focused on the intersection of software and AI. I combine analytical rigor with a collaborative spirit, honed through extensive volunteer work, to drive innovation. Currently advancing my AI expertise and certified in leading cloud technologies.

WORK EXPERIENCE

Gemini CAD Systems

Junior Software Engineer

Iași, RO

June 2023 - Present

- Contributed to the architecture and optimization of a real-time CAD rendering pipeline, enhancing 2D canvas performance for large-scale design workflows.
- Collaborated on implementing a robust, MVC-based permission system using Qt, defining granular user access controls with guidance from senior engineers.
- Developed and enhanced cross-platform desktop features in C++ and Qt, including custom UI components and event filtering systems, within a collaborative team environment.
- Assisted in optimizing legacy codebase by applying multithreading and memory management, contributing to the resolution of critical bugs in core application services.
- Integrated key Qt modules to enable features like HTML report generation and secure cloud data synchronization, working closely with the team to ensure seamless implementation.

Software Engineer Intern

August 2022 - May 2023

- Delivered pixel-perfect UI enhancements and responsive design updates using Qt and QML, ensuring cross-platform consistency under the guidance of senior developers.
- Developed scalable UI components using Qt's Model-View architecture, implementing data binding for real-time visualization with guidance from the team.
- Actively participated in an enterprise-level Scrum team, contributing to code reviews, sprint planning, and agile ceremonies while navigating a large-scale C++ codebase.

Special Telecommunications Service (STS)

IT Support Staff (Local Election)

Botosani, RO

August 2020 - September 2020

- Provided technical support for critical electoral IT systems (SIMPV/SICPV) and implemented cybersecurity measures during national election processes.
- Delivered training and technical assistance for electoral personnel while maintaining 24/7 system availability and equipment functionality.

EDUCATION

Gheorghe Asachi Technical University of Iași

Master of Science in Artificial Intelligence

Iași, RO

October 2024 - June 2026

Courses: Fundamentals of Machine Learning, Deep Learning, Natural Language Processing, Big Data Techniques, Cloud Computing, Reinforcement Learning, Multiagent Systems, Edge Computing Applications

Bachelor of Science in Automatic Control and Applied Informatics

October 2020 - June 2024

Courses: Computer Programming, Data Structures & Algorithms, Database Systems, Real-Time Programming, Systems Theory, Microprocessor-Based Systems, Embedded System, Control Engineering, Computer Networks, Neural Networks & Fuzzy Logic, Knowledge-Based Systems

CERTIFICATES

- Oracle Cloud Infrastructure 2025 Data Science Professional (1Z0-1110-25)
- Oracle Cloud Infrastructure 2025 Generative AI Professional (1Z0-1127-25)
- Oracle Cloud Infrastructure 2025 AI Vector Search Professional (1Z0-184-25)
- Oracle Cloud Infrastructure 2025 AI Foundations Associate (1Z0-1122-25)

PROJECTS

Metaheuristic Optimization Framework

2025

Co-developed a Python framework with multiple optimization algorithms. I implemented specific solvers, analyzed their benchmark performance on high-dimensional functions, and identified the most robust and efficient solutions.

VOLUNTEER & LEADERSHIP

LOCAL BEST GROUP IASI

Iasi, RO

IT Department Coordinator

September 2023 - August 2024

- Directed the IT department, ensuring the reliability and efficiency of all technical and logistical operations, and supporting organizational goals and needs.
- Mentored and supervised a team of IT volunteers, providing technical guidance and fostering collaborative project execution.
- Managed IT resources, including hardware, software, and network assets, to support organizational goals and needs.

Coordinator of JobShop® Career Event (23rd Edition)

November 2022 - April 2023

- Spearheaded the planning and execution of the JobShop® Career Event, connecting students with leading industry employers.
- Managed all event logistics, including venue coordination, vendor management, scheduling, and budget oversight.
- Developed and implemented event strategies to maximize attendee engagement and partner satisfaction.
- Liaised with company representatives, university staff, and student volunteers to ensure seamless event flow.

TOPICS Responsible — Prove It 24H Techathon (2nd Edition)

December 2021 - March 2022

- Collaborated closely with university departments, external stakeholders, and the core-team to define event scope and objectives.
- Facilitated the entire participant experience, from establishing regulations to providing all necessary hackathon materials and resources.
- Managed communication channels between organizers, mentors, and participants throughout the 24-hour event.

IT Responsible — BEST Training Weekend

January 2021 - May 2022

- Built and maintained the event website using HTML5, CSS3 (Flexbox/Grid), and ES6 JavaScript
- Partnered with design and marketing via Git/GitHub (branching, PRs) to iterate quickly; diagnosed and resolved UI/JS issues during event operations, contributing to on-time releases and a smooth participant experience.

SPECIALTIES

Desktop Development Qt Framework (5.8-6.8), C++17/20, Cross-Platform Applications, Real-Time Systems

Qt Technologies Qt Widgets, QML, Signal/Slot, Model-View Architecture, Custom Delegates, Proxy Models

Performance Optimization Multithreading, Memory Management, Legacy Code Refactoring, Profiling

Development Practices Agile/Scrum, Code Reviews, Version Control (Git), CI/CD, Unit Testing

OTHER SKILLS

Languages Python, Matlab, Rust, Java, JavaScript

AI/ML Frameworks PyTorch, Scikit-Learn, TensorFlow, Hadoop, Big Data Processing

Tools & Platforms Docker, SonarQube, Jupyter/Colab, Anaconda, Wandb, Cloud Services

Soft Skills Technical Leadership, Problem Solving, Cross-Functional Collaboration, Mentoring