

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 rigour with a collaborative spirit, honed through extensive volunteer work, to drive innovation. Currently advancing my AI expertise and certified in leading cloud technologies.

PROFESSIONAL EXPERIENCE

Gemini CAD Systems

Junior Software Engineer

Iași, RO

June 2023 - Present

- Developed and implemented UI components for garment assembly operations using Qt framework, maintaining code quality standards through peer code reviews.
- Created action classes and controller implementations for 2D canvas operations, implementing painting order management and refresh mechanisms for pattern design updates.
- Designed model serialization/deserialization systems with versioning support, ensuring backward compatibility for legacy pattern files while collaborating with cross-functional teams on data structure architecture.
- Developed cloud communication infrastructure for 3D team integration, implementing event-driven data transmission protocols and synchronization mechanisms.
- Participated in Qt framework migration from version 5.8 to 6.12, updating deprecated APIs and ensuring component compatibility while coordinating with development team to resolve migration challenges.
- Implemented internationalization systems including tooltips, multi-language translations, and role-based user permission frameworks for garment measurement tools and avatar dimension features.

Software Engineer Intern

August 2022 - May 2023

- Worked with Qt meta-object signal/slot paradigms for real-time UI interactions and event-driven communication architectures.
- Developed static UI components and executed refactoring initiatives, improving visual consistency and rendering performance across cross-platform environments.
- Utilized Git/GitLab workflows, Jenkins CI/CD automation pipelines, and Scrum agile methodologies for software delivery cycles.

Special Telecommunications Service (STS)

IT Support Staff (Local Election)

Botosani, RO

August 2020 - September 2020

- Provided technical support for electoral IT infrastructure (SIMPV/SICPV systems) and implemented cybersecurity protocols during national election processes.
- Conducted training programs and technical assistance for electoral personnel while ensuring system availability and equipment functionality through monitoring and incident response.

EDUCATION

Gheorghe Asachi Technical University of Iași

Master of Science in Artificial Intelligence

Iași, RO

October 2024 - June 2026




Advanced Coursework: Machine Learning Fundamentals, Deep Neural Networks, Natural Language Processing (NLP), Reinforcement Learning, Multi-Agent Systems, Cloud Computing Architecture, Big Data Techniques, Edge Computing Applications

Bachelor of Science in Automatic Control and Applied Informatics

October 2020 - June 2024

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

PROFESSIONAL CERTIFICATIONS

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

TECHNICAL PROJECTS & RESEARCH

Advanced Metaheuristic Optimization Framework

2025

Co-developed a Python-based optimization framework featuring multiple metaheuristic algorithms. Implemented specialized solvers for high-dimensional optimization problems and conducted benchmark analysis for complex engineering applications.

WiDS Datathon 2025 University Edition - Top 10 Finalist

2025

Achieved 8th place ranking in the Women in Data Science University Edition by developing regression models for neuroimaging analysis. Engineered machine learning pipelines to predict chronological age from functional connectome matrices using fMRI data from adolescent subjects.

LEADERSHIP & VOLUNTEER EXPERIENCE

LOCAL BEST GROUP IASI

Iași, RO

IT Department Coordinator & Technical Lead

September 2023 - August 2024

- o Coordinated IT department operations and managed technical infrastructure to support organizational activities.
- o Supervised a team of IT volunteers, providing technical guidance and coordinating project execution.
- o Managed IT resources including hardware assets, software licensing, and network infrastructure.

Event Coordinator - JobShop® Career Event (23rd Edition)

November 2022 - April 2023

- o Planned and executed the JobShop® Career Event, facilitating connections between students and industry employers.
- o Coordinated event logistics including venue management, vendor coordination, scheduling, and budget oversight.
- o Developed event strategies to enhance attendee engagement and partner satisfaction.
- o Facilitated communications with executives, university administration, and volunteer teams.

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

December 2021 - March 2022

- o Collaborated with university departments and stakeholders to define event scope and technical requirements for the hackathon.
- o Managed participant experience from establishing technical regulations to providing hackathon resources and infrastructure.
- o Coordinated communication between organizers, industry mentors, and participants during the 24-hour competition.

IT Responsible — BEST Training Weekend

January 2021 - May 2022

- o Developed responsive event website using HTML5, CSS3, and JavaScript.
- o Collaborated with design and marketing teams to resolve UI and JavaScript issues during event operations.

TECHNICAL SPECIALTIES

Software Development: C++17/20, OOP, Cross-Platform Development, Real-Time Systems

Qt Technologies: Qt Framework (5.8-6.12), Qt Widgets, QML, Signal/Slot, MVC

Development Practices: Agile/Scrum, Code Reviews, Git/GitLab, CI/CD Pipelines, Unit Testing

Performance Engineering: Multithreading, Memory Management, Code Refactoring, Profiling, Debugging

AI/ML Technologies: Python, PyTorch, TensorFlow, Machine Learning, Deep Learning, NLP

Cloud & DevOps: Oracle Cloud (OCI), Docker, Jenkins, CI, Technical Documentation

ADDITIONAL TECHNICAL SKILLS

Programming Languages: Python, MATLAB, Rust, Java, JavaScript (ES6+), SQL, Bash/PowerShell

AI/ML Frameworks: PyTorch, Scikit-Learn, TensorFlow, Keras, Hadoop, Apache Spark

Development Tools: Docker, SonarQube, Jupyter/Colab, Anaconda, Weights & Biases, Git/GitLab, Jenkins

Cloud Platforms: Oracle Cloud (OCI), AWS, Azure, Google Cloud (GCP)

Leadership & Collaboration: Technical Mentoring, Cross-Functional Collaboration, Agile PM, Problem Solving