Bogdan Ion

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Education

MSc in Autonomous Systems, *EURECOM* – Biot, France. *GPA:3.25/4.00* Sep 2024 - Oct 2026
- Specialised in **Machine Learning**, **Image Processing**, **Graph Extraction**, **Agentic AI**, **Computer Architecture**.

MSc in Autonomous Systems, *KTH* – Stockholm, Sweden. *GPA:3.25/4.00* Sep 2024 - Oct 2026
- **Machine Learning** for **robotics**; practical experience with simulated and real robots using **low-level ROS**.

BSc in Computer Science, *Babes-Bolyai University* – Cluj-Napoca, Romania. *GPA:3.25/4.00* Sep 2021 - Jul 2024
- Foundation in core Computer Science disciplines, including **Software Development** (heavy accent), **Computer Networks**, **Computer Architecture**, **Artificial Intelligence (AI)**, and **Databases**.

Experience

Med-AI Software Engineer, *AI4Health Lab* – Biot, France Sep 2025 – Sep 2026
- Developed an **AI Agent** (visual) for detecting venous artifacts in arterial brain MRA segmentations.
- Manipulation of **high-dimensional** data and images. Pipeline consisting of VLM agent & computer vision processing.

Software Engineer, *HALOANDREINETWORK* – Cluj-Napoca, Romania Oct 2023 – Sep 2024
- Designed and built a PaaS enabling configurable deployment of 30+ project types.
- Docker-based, orchestrated with Kubernetes | Angular, Node.js, MongoDB

Embedded Engineer, *AROBS Transylvania* – Cluj-Napoca, Romania Sep 2022 – May 2023
- Engineered low-level software in C for STM32 Nucleo microcontrollers.
- Embedded Systems, **C/C++**, system timing, **communication protocols**, oscilloscope-based **signal analysis**.

Relevant Projects

EURECOM R&D Project: Biological Network Graph Extraction (2026)
- Implemented a **graph extraction** method from an arterial segmentation. Reduced deviations from previous measurements by a **factor of 10**. **Directly contributed** to the Caravel paper.
- Managed 2D/3D Neuroimaging data, image segmentation (scikit), mesh processing (VTK).

KTH R&D Project: Autonomous Robot (2025)
- In a five-person team, developed a **fully autonomous** four-wheeled robot in **low-level ROS**. (two driven wheels)
- Capable of operating in an unknown environment, including **self-localization**, **path planning**, **object detection**, and **manipulation** using a **7-DOF** robotic arm. (nodes, services, topics)

Personal Project - Mobile App: LogiQ Puzzle (2025)
- Developed a **cross-platform** mobile app inspired by NYT Games, with an integrated ranking system.
- Built using **React Native** with **Expo** and **Firebase**. The app is public, but not maintained currently.

Robotics: First Tech Challenge Romania (2016-2023)
- **Team lead** of a local robotics team (IDeaL Electronics). Robot was both **autonomous** and **controlled**.
- Programmed in Java. Implemented **PID** controller on Mecanum wheels, localization, computer vision (OpenCV).

Achievements

- **MICCAI Paper (SPOTLIGHT):** Projection-Based Detection of Venous Artifacts in Cerebrovascular Segmentations
- Achieved yearly **national-level awards** for **programming/design** against heavy competition within FTC Romania.
- Benefited from a **Merit Scholarship** in the last year of my Bachelor's.
- ALUMNI for FTC Romania in my university years, providing tech assistance in organizing the event.

Skills

Programming & Core: GNU/Linux, C/C++/C#, ASM, Python, ROS/ROS2, Java, Js/Ts, React Native
Agentic AI: Huggingface, Agentic Workflows, Dynamic Model Routing
ML & Imaging: PyTorch, Nibabel, Torch, PIL, 3D Slicer/SimpleITK
Infrastructure & Tools: Docker, Kubernetes, Git, Firebase, Postgres, REST
Languages: English (Advanced), French (Intermediate),Romanian (Native)

Reference: Maria Zuluaga - EURECOM / KCL (*zuluaga@eurecom.fr*)