




Alexandru-George BERCIU


Date of birth: 22/10/1998


Nationality: Romanian


Gender: Male


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ABOUT MYSELF

I am a punctual, confident, and highly organised professional with a strong commitment to continuous learning and personal development.

Throughout my volunteer work with various organisations, I have honed my teamwork and communication skills, while also gaining a deep appreciation for collaboration. Serving as a student representative, I developed leadership qualities and learned to effectively address the needs of those around me.

Academically, I have specialised in MATLAB and Python, diving deep into their applications in artificial intelligence and control engineering. My interest lies in leveraging digital twins and AI-driven strategies to improve the quality of people's lives.

In addition to my academic pursuits, I have had the privilege of contributing to several national and international research projects. These experiences have strengthened my critical thinking, attention to detail, and problem-solving abilities, allowing me to approach complex challenges with a unique perspective.

Outside of work, I'm an avid trumpet player, which helps me unwind and maintain creativity.

WORK EXPERIENCE

Faculty of Automation and Computer Science - Technical University of Cluj-Napoca Cluj-Napoca, Romania

Business or sector Education | **Department:** Automation | **Website:** <https://aut.utcluj.ro/>

Assistant Professor

26/02/2024 - Current

- Mentoring students and helping them carry out laboratory work;
- Participation in the activities of the Department of Automation: organisation of conferences (AQTR, ICSTCC), preparation of the entrance exam.

IEEE Student Branch Cluj-Napoca Cluj-Napoca, Romania

Business or sector Education | **Email:** sb.ieee@staff.utcluj.ro | **Website:** <https://edu.ieee.org/ro-utcluj/>

Chair

14/02/2024 - Current

- Coordination of the members to achieve the objectives proposed in the Annual Plan of the Student Branch;
- Development and maintenance of the Student Branch [website](#) and Facebook [page](#) .

Advanced Process Control Methods Research Group (ADAPTED) Cluj-Napoca, Romania

Business or sector Education | **Website:**

<https://control.utcluj.ro/projects/optimdrug/>

Research Assistant

01/08/2023 - Current

- Involvement in the research project "Centre of Excellence in Computer-Assisted Systems for Drug Dosing Control and Optimisation" and fulfilment of the tasks assigned according to the job description.

Energy Transition Research Center (EnTReC) Cluj-Napoca, Romania

Business or sector Professional, scientific and technical activities | **Website:** <https://entrec.utcluj.ro/>

Research Engineer

28/02/2022 - Current

- Development of electricity forecasting algorithms within the RE-COGNITION project, financed by the Horizon 2020 program, grant agreement ID: 815301;
- Development of an application for energy management and control in public buildings using artificial intelligence, within the DO IT SMARTer project - funded by Norwegian funds.

RENERGIA Cluj-Napoca, Romania

AI Coordinator

04/2024 - 10/2025

- Establish the AI-based functionalities to be integrated into the RENERGIA application;
- Ensuring safety in the use of AI and data protection;
- Design and development of PoC modules to be subsequently integrated into the RENERGIA mobile app.

Faculty of Automation and Computer Science - Technical University of Cluj-Napoca Cluj-Napoca, Romania

University Teaching Assistant

26/09/2021 - 25/02/2024

- Development of a memorandum of laboratory work in the Control Engineering discipline;
- Mentoring students and helping them to carry out laboratory work.

Advanced Process Control Methods Research Group (ADAPTED) Cluj-Napoca, Romania

Business or sector Professional, scientific and technical activities | **Website:** <https://control.utcluj.ro/>

Research Engineer

05/01/2020 - 31/07/2023

- Development of an application based on Deep Learning to identify the presence of colorectal cancer following the analysis of numerical results and images after colonoscopy;
- Development of an Augmented Reality-based application for the appropriate administration of drug doses;
- Administration of the [website](#) of the Advanced Process Control Methods Research Group, using the WordPress platform.

European Commission Brussels, Belgium

Young Observer

11/04/2023 - 20/06/2023

- I participated as a Young Observer in a call for the evaluation of projects in the field of Agriculture that aimed to digitalise this field with the help of Horizon Europe funding;
- I had the honour to collaborate with 3 other European students to learn the evaluation procedure of the project proposals and the organization of this procedure.

RENERGIA Cluj-Napoca, Romania

Artificial Intelligence Engineer

02/2023 - 04/2023

- Development of an innovative AI-based algorithm for improving the energy efficiency of households;
- Creating a digital ecosystem to enhance energy transition in the residential sector.

Ghent University Ghent, Belgium

Research Trainee

17/01/2023 - 11/03/2023

- I helped the implementation team of the ERC-funded AMICAS research project by proposing and implementing innovative image intelligence detection solutions.

ART TU Cluj-Napoca / Formula Student Team Cluj-Napoca, Romania

Business or sector Manufacturing | **Department:** Project Management | **Website:** <https://arttu-formulastudent.ro/>

Project Manager

11/08/2020 - 30/09/2022

- Managing reports and necessary documentation;
- Analyzing and managing project risk;
- Monitoring progress.

IEEE Student Branch Cluj Cluj-Napoca, Romania

Business or sector Education | **Email:** sb.ieee@staff.utcluj.ro | **Website:** <https://edu.ieee.org/ro-utcluj/>

Vice President

02/02/2020 - 15/01/2022

- Organization of the new Student Branch;
- Attracting sponsors to support the activities of the Student Branch;
- Coordination of the members to achieve the objectives proposed in the constituent act.

Numerical Methods Research Laboratory - Technical University of Cluj-Napoca Cluj-Napoca, Romania

Business or sector Information and communication | **Department:** Electrotechnics and Measurements | **Website:** <https://lcmn.utcluj.ro>

Student Researcher

07/10/2019 - 28/02/2022

- Development of forecast algorithms for electricity consumption;
- Development of algorithms for determining the baseline of electricity consumption;
- Administration of the [website](#) of the Numerical Methods Research Laboratory, using the WordPress platform.

Government of Romania Bucharest, Romania

Business or sector Information and communication | **Department:** National Center for Financial Information - Ministry of Public Finance | **Website:** <https://mfinante.gov.ro/en/web/site>

Intern

15/07/2019 - 12/09/2019

- I developed my teamwork skills by being involved in the Government Meeting Simulation, where I held the Minister of Public Finance position, representing all my internal colleagues from the Ministry of Public Finance and the National Agency for Fiscal Administration;
- I studied ISO quality certificates and how to create an SLA.

SC Romania Hypermarche SA Cluj-Napoca, Romania

Cashier

30/06/2015 - 30/08/2015

- I had to scan products purchased by customers and to collect the related amount;
- At the end of the day, I prepared a balance with all the transactions from that day.

EDUCATION & TRAINING

02/10/2023 - CURRENT Cluj-Napoca, Romania

Doctor of Philosophy - PhD, Systems Engineering Technical University of Cluj Napoca

- Intelligent Buildings;
- Artificial Intelligence;
- Human-Centered Control.

Website: <https://iosud.utcluj.ro/index.en.html> | **Field(s) of study:** Electronics and automation | **Level in EQF:** EQF level 8
| **National classification:** 10 | **Type of credits:** ECTS | **Number of credits:** 180

26/09/2021 - 17/07/2023 Cluj-Napoca, Romania

Master of Science in Engineering - M.Sc.Eng., Systems Engineering, Advanced Manufacturing Engineering and Management Technical University of Cluj-Napoca, Faculty of Automation and Computer Science

- Software structures for real-time applications;
- Intelligent control through learning and optimization;
- Embedded systems;
- Computer-Aided Design.

Address: George Baritiu Street 26-28400027, Cluj-Napoca (Romania) | **Website:** <https://ac.utcluj.ro/index.en.html>

Field(s) of study: Electronics and automation | **Final grade:** 10 | **Level in EQF:** EQF level 7 | **National classification:** 9
| **Type of credits:** ECTS | **Number of credits:** 120 | **Thesis:** Energy efficiency of buildings through intelligent control

01/10/2017 - 13/07/2021 Cluj-Napoca, Romania

Bachelor of Engineering - B.Eng., Systems Engineering, Automation and Applied Informatics Technical University of Cluj-Napoca, Faculty of Automation and Computer Science

- C++, C#, C, Java, MySQL, MATLAB;
- Mathematical analysis;
- Control engineering;
- Logic design;
- Data structures and algorithms in C;
- Computer-Aided Design (AutoCAD).

Address: George Baritiu Street 26-28400027, Cluj-Napoca (Romania) | **Website:** <https://ac.utcluj.ro/index.en.html>

Field(s) of study: Electronics and automation | **Final grade:** 10 | **Level in EQF:** EQF level 6 | **National classification:** 7
| **Type of credits:** ECTS | **Number of credits:** 240 | **Thesis:** Application for monitoring electricity consumption

15/09/2013 - 25/05/2017 Cluj-Napoca, Romania

High school Diploma "Onisifor Ghibu" Theoretical High School

- C++, C#;
- Mathematics and informatics.

Address: Alexandru Vlahuta Str. 12400315, Cluj-Napoca (Romania) | **Website:** <https://www.liceul-onisifor-ghibu.ro/>

Field(s) of study: Inter-disciplinary programmes and qualifications involving Information and Communication Technologies (ICTs) | **Final grade:** 9.78 | **Level in EQF:** EQF level 5 | **National classification:** 6 | **Thesis:** National Baccalaureate Exam 2017

LANGUAGE SKILLS

MOTHER TONGUE(S): Romanian

OTHER LANGUAGE(S):

English

Listening B2

Reading B2

Writing B2

Spoken production C1

Spoken interaction C1

SKILLS

MATLAB&Simulink | Python (computer programming) | Team-work oriented | MS Office (MS Word, MS Excel, MS Powerpoint, MS Outlook, MS Teams, MS Project, MS Sharepoint) | Good listener and communicator

DRIVING LICENCE

- **Driving licence:** AM
- **Driving licence:** B

VOLUNTEERING

20/09/2018 - 21/09/2018 Cluj-Napoca

- **Volunteer at droidcon Transylvania 2018**

- I arranged the conference room and I have provided the necessary supplies for coffee machines.

23/05/2018 - 25/05/2018

- **Volunteer at the International Conference on Automation, Quality and Testing, Robotics**

- I was responsible for a room where thematic presentations were held.

HONOURS AND AWARDS

31/12/2023 Smart City & Climate Neutral Competence Centre, Romania

- **First Award in the "NetZeRoCities Competition 2023" following the presentation of the project proposal "NetZeroCampus"**

- Together with the PhD and MSc students from the EnTReC research center, we developed the project proposal "NetZeroCampus: Novel & Optimal Learning Environment and Tracking Emission System for a Climate-Neutral Living Lab".
- Following its presentation at the national competition "NetZeRoCities", organised by the Smart City & Climate Neutral Competence Center in Romania, our team was awarded the first award both in terms of popularity among the public and as a result of the jury's evaluation.

30/06/2023 Riga Technical University, Latvia

- **First Award after the defence of the project "Artificial Intelligence Controlled Environment to Improve Sleep Quality"**

- Following participation in the Blended Intensive Programme On Biomedical Engineering And Medical Physics event "Nonlinear Life. Edition 6" and the defence of the project "Artificial Intelligence Controlled Environment to Improve Sleep Quality", together with the team I was part of, we managed to get the first award, being the only team out of the 6 that got the maximum score (10 out of 10 points).

31/05/2023 Romanian Ministry of Education and Traian Lalescu Foundation

- **Gold Medal and First Award at the National Scientific Session on Mathematics and Computer Science for Students**

- Following the presentation of the paper entitled "Energy efficiency of buildings through intelligent control" I managed to get the first prize with a score of 398 out of 400 points.

31/08/2022 Committee for IT&C of the Chamber of Deputies of the Romanian Parliament.

- **First Award in the "Master Your Digital Future" contest**

- Through an essay in which I proposed the implementation of an IT platform, entitled "Future Researcher", which would centralize all the vacancies for students who want to get involved in research in Romania, in order to prepare young Romanians for the jobs of the future by giving them the opportunity to be the authors of the future and to revitalize the research field in Romania, I managed to win the first prize at the National Contest "Master Your Digital Future" organized by Mr. Sabin Sărmaş, President of the Committee for Information Technology and Communications of the Chamber of Deputies of the Romanian Parliament.

31/05/2022 Ministry of Education

● **Second Award at the National Scientific Session on Mathematics and Computer Science for Students**

- Following the presentation of the Energy Pulse application and its functionalities to the computer science evaluation committee, I was awarded second prize at the Scientific Session on Mathematics and Computer Science for Students, edition 2022, held in Timisoara on May 12-14.

31/01/2022 Technical University of Cluj-Napoca

● **Diploma for the best bachelor's diploma thesis - AC TUCN 2021**

- I received the diploma for the best bachelor's thesis produced in the Faculty of Automation and Computer Science by the class of 2021.

31/05/2020 General Secretariat of the Romanian Government

● **First Award in the "Open State. Romania's evolution perspectives for the expansion of open government" contest**

- In this essay contest, I proposed the creation of 3 electronic platforms: Voluntariat.Gov.ro, Evenimente.Gov.ro and Comunica.Gov.ro to encourage volunteering in local and central public administration, centralization of all events organized by public administrations in Romania and encourage an efficient collaboration between decision-makers and citizens.
- I also expressed my openness to implementing them voluntarily.

30/03/2019 Technical University of Moldova

● **Excellence Award**

- I won the Excellence Award from the Technical University of Moldova for the idea presented at the International Salon of Scientific Research, Innovation and Invention, PRO INVENT – March 2019.

27/02/2019 Texas A&M University Engineering

● **First Award in the "Invent for the Planet" contest**

- Together with the team I was part of, we won the First Award at national level with the Life ++ proposal.

30/05/2018 Technical University of Cluj-Napoca

● **Second Award in the "Traian Lalescu" contest**

- I obtained the second prize following the "Traian Lalescu" contest, specialized in Special Mathematics, made at the level of the Technical University of Cluj-Napoca.