



PERSONAL DETAILS

NAME

Alex Danku

ADDRESS

Romania
Cluj

SOCIAL LINKS

[Google Scholar](#)

[Linkedin](#)

SKILLS

Neural Network Training

Matlab Programming

Research

Coding Basics

Microsoft Office Package

LANGUAGES

Romanian Native speaker

Hungarian
Professional working proficiency

English
Professional working proficiency

Alex Danku

System Engineer

Motivated system engineering graduate with 8 years of experience in teaching and research in which i developed time management, leadership and presentation skills. Eager to test, learn more and develop medical applications using AI similar to the ones trained for my PHD thesis.

WORK EXPERIENCE

Researcher

Oct 2018 – Oct 2025

Technical University of Cluj Napoca · Cluj Napoca

- Implemented and tested an AI-driven colorectal cancer detection tool, training neural network models on data from ~1,500 patients and achieving over 90% prediction accuracy.
- Implemented and tested AI based models based on the fermentation process for multiple types of bacteria, the neural network models had over 90% prediction accuracy.
- Developed and maintained websites for multiple university research projects, improving accessibility and dissemination of medical AI results.
- Authored and co-authored 9 research articles in bioengineering and medical applications, including 8 papers using machine learning and neural networks.
- Delivered conference talks and project update presentations to technical and clinical audiences, clearly communicating complex AI and control systems results.

Associate Teacher

Sep 2018 – Sep 2025

Technical University of Cluj Napoca · Cluj Napoca

- Supervised and graded ~100–200 exams per year for finals and entrance exams, ensuring fair and consistent evaluation.
- Taught Matlab programming to classes of 15–20 students in Romanian and English, improving average grades and pass rates.
- Provided consultation and appeal sessions before and after exams, leading to more students selecting our group for bachelor thesis supervision.

EDUCATION

PhD in System Engineering

Sep 2020 – May 2026

Technical University of Cluj Napoca

- PhD in System Engineering focused on medical AI.
- Thesis: Application for Colorectal Cancer Detection Using Convolutional and Artificial Neural Networks.
- Research topics: deep learning for medical diagnosis and neural-network-based modelling.

MSc in Advanced Process Control

Oct 2018 – Jul 2020

Technical University of Cluj Napoca

- Coursework in advanced process control, machine learning and optimisation.
- Developed machine-learning models for control and prediction of biological and bioprocess systems.
- Applied neural-network-based modelling to fermentation and other biological processes.

PERSONAL PROJECTS

Application for Colorectal Cancer Detection Using Convolutional and Artificial Neural Networks	Sep 2020 – Nov 2025
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Optimization and Modelling of Mannitol and Erythritol Production Using Neural Networks and Genetic Algorithms	Sep 2018 – Jun 2020
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Neural Network Based Model Training of Lactic Acid Fermentation Process from Crude Glycerol	Feb 2018 – Jun 2018
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CERTIFICATES

FCE Cambridge Certificate	2013 – Present
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