



## George Laurențiu APETRIA

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## ABOUT ME

Computer Engineer holding a B.Eng. in Computer Engineering and M.Sc. in Computer Science with a specialization in Artificial Intelligence and Optimization. My academic and professional interests include machine learning, natural language processing, data analytics, and information systems, with a strong focus on data-driven decision support. Alongside my technical and academic pursuits, I am passionate about research, knowledge sharing, scholarly collaboration, and supporting student development. Combining research-oriented thinking with practical software engineering experience, I am motivated to contribute to academic teaching, student mentoring, and research activities in the fields of artificial intelligence, data management and information systems.

## EDUCATION AND TRAINING

### Master in Artificial Intelligence and Optimization

*Faculty of Computer Science, "Alexandru Ioan Cuza" University of Iași* [ 01/10/2023 – 01/07/2025 ]

**City:** Iași | **Country:** Romania | **Field(s) of study:** Artificial Intelligence and Optimization | **Final grade:** 9.25 | **Thesis:** Topic mining processing

Research interests:

- Data Mining
- Computational Statistics
- Big Data Analysis
- Advanced Topics in Machine Learning
- Optimization Algorithms
- Natural Language Processing

### Bachelor of Engineering

*Faculty of Automatic Control and Computer Engineering, "Gh. Asachi" Technical University of Iași* [ 01/10/2018 – 14/07/2022 ]

**City:** Iași | **Country:** Romania | **Field(s) of study:** Computer Engineering | **Final grade:** 9.5 | **Thesis:** Automatic identification of brain tumors in medical images

Research interests:

- Artificial Intelligence
- Machine Learning
- Data Visualization
- Computer Vision and Image Processing
- Database Systems and Data Management
- Data Structures and Algorithms

### Baccalaureate Degree

*"Regina Maria" Highschool Dorohoi* [ 15/09/2014 – 09/07/2018 ]

**City:** Dorohoi | **Country:** Romania | **Field(s) of study:** Mathematics and Computer Science | **Final grade:** 9.83

## PROJECTS

**Brain Tumor Detection in Medical Images (Bachelor Thesis)** Developed an artificial intelligence system for automated brain tumor detection from medical imaging data. The approach integrates image processing techniques with machine learning-based classification methods for feature extraction and decision support. The work focuses on computer vision, medical image analysis, and applied artificial intelligence for healthcare decision support systems.

**Topic Mining Processing (Master Thesis)** Designed and implemented an unsupervised natural language processing system for large-scale topic mining using Latent Dirichlet Allocation (LDA). The approach enables the discovery of latent topics and hidden semantic structures within large unstructured textual datasets. The research focuses on topic modeling, text mining, and scalable data-driven methods for information extraction and exploratory data analysis.

**Car Classification using Support Vector Machines and Evolutionary Optimization** Developed a supervised learning pipeline for vehicle classification using Support Vector Machines. Hyperparameters were optimized using evolutionary algorithms to improve predictive performance and model robustness. The project focuses on machine learning optimization, predictive modeling, and algorithmic tuning techniques.

Link: <https://github.com/GeorgeGit03>

**Multiplayer Cooperative Game Development (Unity)** Designed and developed a real-time cooperative multiplayer system in Unity with physics-based interaction models and event-driven architecture. The project applies object-oriented design principles and real-time interaction logic for building interactive distributed software systems. It emphasizes collaborative development and structured software engineering methodologies.

## WORK EXPERIENCE

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 **AUMOVIO Technologies Romania** – Iași, Romania

### System Test Engineer

[ 01/09/2025 – Current ]

- Contribute to the development of an AI-assisted platform for automatic generation of test cases and test scripts from natural-language requirements.
- Design, implement, and optimize software components using Python, with a focus on automation, maintainability, and scalability.
- Integrate Large Language Models (LLMs), including GPT and Gemini, for requirement analysis and automated test generation.
- Design and validate API-based workflows and data-processing pipelines.
- Implement database persistence mechanisms for traceability, reproducibility, and analysis of artifacts.

 **Continental Automotive Romania** – Iași, Romania

### System Test Engineer

[ 01/06/2023 – 01/09/2025 ]

- Participated in the validation of complex software systems across distributed and data-intensive automotive platforms.
- Worked with structured data flows, diagnostic information, and validation processes for large-scale systems.
- Contributed to the design and automation of software deployment pipelines and reproducible testing workflows.
- Collaborated within multidisciplinary teams following requirements-based development, quality assurance practices and structured validation methodologies.
- Gained extensive experience in system-level analysis of complex, safety-critical software systems and their data-driven validation processes.

 **Continental Automotive Romania** – Iași, Romania

### System Test Engineer Intern

[ 09/03/2023 – 01/06/2023 ]

- Completed technical training in computer architecture, software engineering, and embedded systems.
- Acquired practical experience in software testing methodologies, requirement engineering, and test automation frameworks.
- Developed automated test scripts and contributed to validation activities for automotive software systems.
- Worked with version control systems and collaborative software development practices.
- Gained hands-on experience with automotive communication and diagnostic standards.

 **IBM Romania** – Cluj-Napoca, Romania

### Test Specialist Intern

[ 05/09/2022 – 01/03/2023 ]

- Acquired knowledge of software testing methodologies, software quality assurance, and defect management processes.
- Developed automation skills using Python and Java within structured testing environments.
- Gained practical exposure to web technologies and software development workflows.

- Worked with continuous integration and automated testing concepts in enterprise software environments.
- Applied ISTQB-aligned testing principles and best practices for quality assessment.

## SKILLS

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### Data Science, Big Data & Engineering

Data Mining and Data Analytics / Statistical Data Analysis (R Programming Language) / SQL (MySQL), NoSQL (MongoDB) / Big Data Processing (Hadoop, Spark) / Distributed Data Processing Concepts / Data preprocessing, cleaning and feature engineering

### Machine Learning & Artificial Intelligence

Machine Learning & Deep Learning / Neural Networks (CNNs, Deep Neural Networks) / Computer Vision and Image Processing / Model training, evaluation and optimization / Natural Language Processing / Scikit-learn, TensorFlow/Keras, PyTorch / Pandas, NumPy

### Optimization & Applied Methods

Optimization Algorithms / Evolutionary Optimization Techniques / Neural Network Optimization Strategies

### Programming & Software Engineering

Python, C/C++, C#, Java, Kotlin / Object-Oriented Programming (OOP) / Data Structures & Algorithms / Software Design Patterns / Version Control (Git, GitHub)

## LANGUAGE SKILLS

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**Mother tongue(s):** Romanian

**Other language(s):**

#### French

**LISTENING** B2 **READING** B2 **WRITING** B2

**SPOKEN PRODUCTION** B2 **SPOKEN INTERACTION** B2

#### English

**LISTENING** B2 **READING** B2 **WRITING** B2

**SPOKEN PRODUCTION** B2 **SPOKEN INTERACTION** B2

#### German

**LISTENING** B1 **READING** B1 **WRITING** B1

**SPOKEN PRODUCTION** B1 **SPOKEN INTERACTION** B1

*Levels: A1 and A2: Basic user; B1 and B2: Independent user; C1 and C2: Proficient user*

## TEACHING AND PEDAGOGICAL TRAINING

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[ 01/03/2026 – 01/07/2026 ]

**Teacher Training Program (Psychopedagogical Module - Level II)**

[ 01/10/2019 – 01/07/2022 ]

**Teacher Training Program (Psychopedagogical Module - Level I)**