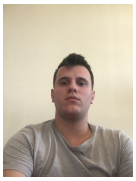

Vasileios Nastos

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LinkedIn Profile

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Athens 17341
Greece

Vasileios Nastos

Software Engineer - AI/ML Engineer

About Me AI/ML Engineer and Computer Science Researcher with expertise in optimization problems, scheduling algorithms, neural network applications, and data science. Proven track record of research contributions, peer-reviewed publications, and hands-on development of AI-driven systems in academia and industry. Passionate about creating robust, end-to-end software solutions, including user-friendly front-end interfaces.

Education

2022 – Present, University of Ioannina, Greece
MSc in Computer Science and Networks
Thesis: ***University course timetabling after student enrollment-PostEnrollment Timetabling***
Supervisor: Prof. Christos Gogos

2017 – 2022, University of Ioannina, Greece
BSc in Computer and Telecommunication Engineering
Admitted through national exams with 11,200 points
Thesis: ***Uncapacitated examination timetabling***
Link to thesis
Supervisor: Prof. Christos Gogos

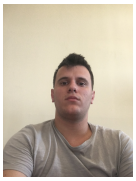
Experience

Oct 2020 – Apr 2021, *Internship* – Department of Informatics and Telecommunications, TEI of Epirus, Arta

- Participated in the program "Student Internship of TEI of Epirus" under the Operational Program "Competitiveness, Entrepreneurship and Innovation."
- Assisted in the management of the department's network infrastructure.
- Performed maintenance and troubleshooting of hardware equipment.
- Contributed to the development of the department's website by implementing new features and enhancing functionality.

March 2021 - August 2023, Researcher-AI/ML Engineer
***Megatron Project/Big Data Analysis of a Robotic Assisted Gait System and 3D Camera System for Optimal Kinetic Rehabilitation* - Human-Computer Interaction Laboratory (HCILAB), TEI of Epirus, Arta**

- Applied deep neural networks and machine learning models on motion capture data (VICON system, EKSONR) for gait analysis and classification.
- Developed algorithms to identify and categorize patterns and human activities based on multi-sensor data.
- Designed a full ML pipeline for biomedical data, including data preprocessing, feature extraction, and model training, which was used for a cancer classification study using MRI and cell imaging data.
- Built databases and platforms for motion and biomedical data processing.
- Developed an anomaly detection system using pattern recognition algorithms in [Python/scikit-learn] to identify fraudulent transactions, improving detection accuracy by 90% over the baseline.



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- Deployed, configured, and maintained an on-premise HPC cluster virtualized with VMware vSphere, including resource allocation, storage management, and user access controls

October 2021- October 2023, *Teaching Assistant*, Department of Informatics and Telecommunications, University of Ioannina, Arta, Greece

Assisted in undergraduate courses, including:

- Data Structures
- Object-Oriented Programming
- Network Protocols and Communications
- Principles of Programming Languages
- Big Data, Machine Learning

July 2023-Present, *Freelance Deep learning - Machine learning Engineer*

- **Pragma-IoT**, *(July 2023-July 2024)*
  - Applied and fine-tuned multimodal AI models (CLIP, AudioCLIP) for cross-modal representation learning and image–audio pair generation.
  - Conducted proof-of-concept experiments with inpainting models (e.g., MI-GAN), adapting model architectures to project requirements.
  - Integrated multiple deep learning models into larger experimental pipelines for research and development.
  - Collaborated on confidential R&D projects, contributing to model customization, evaluation, and fine-tuning.
- **GlobeOneDigital**, *December 2024-Present*
  - Designed and implemented a scoring system using client-provided data to assess company eligibility for leasing, based on questionnaire responses.
  - Developed synthetic questionnaires to generate training datasets, enabling robust model evaluation and reducing data sparsity issues.
  - Developed a REST API to connect the scoring system with the company website, ensuring seamless data flow and integration.
  - Configured and maintained a Linux server environment for API deployment, data management, and system monitoring

Skills

Programming Languages

Python, **C++**, **Java**, JavaScript, Rust

Machine Learning & AI

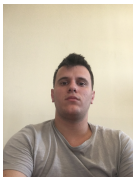
PyTorch, **TensorFlow**,**Keras**,OpenCV,NLTK, Hugging Face, Scikit-learn, (Caffe – legacy experience)

Web & Application Development

Flask, Django, Streamlit, Flutter, Qt, FastAPI,(Java Swing, Tkinter)

Databases & Visualization

PostgreSQL, **MySQL**, MariaDB, SQLite, InfluxDB, Grafana, NetData



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Parallel & Distributed Computing

MPI, OpenMP, HPC systems

Tools & Platforms

Git, Docker, Linux, JetBrains IDEs (IntelliJ, PyCharm), Visual Studio / VS Code

Research Interests

Applied Machine Learning & AI systems

- Deep learning architectures for time-series and sensor data analysis
- Transfer learning and domain adaptation for real-world data scarcity
- Generative models for data augmentation and synthetic data generation
- Efficient Model Deployment and Scalable Inference Systems
- Automated Machine Learning (AutoML) for Domain-Specific Applications
- Federated and Distributed Learning for Privacy-Sensitive Data

Optimization & Operational Research

- Exact and metaheuristic approaches for complex scheduling problems
- Integrating machine learning with optimization for automated decision-making
- Resource allocation under uncertainty for logistics and planning

Emerging Technologies

- Blockchain for Intelligent Systems: Researching applications of smart contracts and decentralized protocols for secure data sharing, asset management, and automated governance.
- Immersive Computing (VR/AR): Exploring applications of virtual and augmented reality for data visualization, training simulations, and human-computer interaction.

Publications

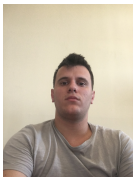
[1] A. Dimitsas, C. Gogos, C. Valouxis, V. Nastos, and P. Alefragis, "A proven optimal result for a benchmark instance of the uncapacitated examination timetabling problem," *Journal of Scheduling*, pp. 1–12, 2024.

[2] D. Angelos, V. Christos, **Vasileios, Nastos**, and G. Christos, "A mathematical formulation for constructing feasible solutions for the post enrollment course timetabling problem," pp. 1–7, 2022.

[3] A. Dimitsas, **Nastos, Vasileios**, C. Gogos, and C. Valouxis, "An exact based approach for the post enrollment course timetabling problem," in *Proceedings of the 26th Pan-Hellenic Conference on Informatics*, 2022, pp. 77–82.

[4] A. Dimitsas, **Nastos, Vasileios**, C. Valouxis, P. Alefragis, and C. Gogos, "A proven optimal result for a benchmark instance of the uncapacitated examination timetabling problem," 2022.

[5] E. Hytis, **Nastos, Vasileios**, C. Gogos, and A. Dimitsas, "Automated identification of fraudulent financial statements by analyzing data traces," pp. 1–7, 2022.



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[6] **Vasileios, Nastos**, A. Arjmand, T. Klevis, *et al.*, "Human activity recognition using machine learning techniques," pp. 1–7, 2022.

[7] C. Gogos, A. Dimitsas, **Nastos, Vasileios**, and C. Valouxis, "Some insights about the uncapacitated examination timetabling problem," in *2021 6th South-East Europe Design Automation, Computer Engineering, Computer Networks and Social Media Conference (SEEDA-CECNSM)*, 2021, pp. 1–7. DOI: 10.1109/SEEDA-CECNSM53056.2021.9566258.

Languages

Greek: Native

English: Very good (B2 certificate, 7 publications in English)