Ioannis A. Nellas

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 Military Service: Fulfilled
Last Update: January 2025

EDUCATION

University of Thessaly October 2024 - today
PhD Candidate - Department of Computer Science and Biomedical Informatics
Thesis title: Knowledge Discovery through Novel Artificial Neural Networks Algorithms

University of Thessaly September 2021 - March 2023
Master of Science in Informatics and Computational Biomedicine *Overall Grade*: 10/10
Dissertation title: "Supervised Dimensionality Reduction and Classification with
Convolutional Autoencoder Neural Networks" *Dissertation Grade*: 10/10

University of Thessaly September 2017 - July 2021
Bachelor of Science in Computer Science and Biomedical Informatics *Overall Grade*: 8.78/10
Dissertation title: "Autoencoder Neural Networks for Image Clustering" *Dissertation Grade*: 10/10.

EXPERIENCE

Link Technologies S.A. Thessaloniki, Greece
Artificial Intelligence Engineer April, 2024 - December, 2024

- Participation as an Artificial Intelligence Engineer at the Research and Development AI Department of Link Technologies S.A.

  - ***Responsibilities***: Research, implementation, improvement and troubleshooting of machine and deep learning methods for anomaly detection in a vehicle fleet setting.
  - ***Utilized Tools***: SQL Server, Apache Airflow, BitBucket, Data Science Tools in Python such as Numpy, Pandas, Scipy, matplotlib, Anomaly detection libraries in Python such as pyOD and darts.

Intelligent Systems Laboratory, University of Thessaly Lamia, Greece
Deep Learning Researcher September, 2021 - October, 2023

- Participation as a researcher for deep learning methodologies at the research laboratory of the Department of Computer Science and Biomedical Informatics of the University of Thessaly, entitled *Intelligent Systems Laboratory*, with an interest specifically on deep clustering methods. During this time period, four international scientific publications were successfully conducted, where two of them are first-author publications, on eminent scientific journals and workshops.

  - ***Responsibilities***: Research on Deep Learning methodologies with an interest specifically on *Deep Clustering*, experiment implementation and execution, publication writing, grant writing, report about research findings to the supervisor through reports and presentations.
  - ***Utilized Tools***: Python programming language, Data Science and Deep Learning Tools in Python such as Numpy, Pandas, Scikit-learn, Matplotlib, Seaborn, PyTorch, Keras and Tensorflow, R programming language, Data Science tools in R such as tidyr, dplyr plotly, ggplot, caret, Linux Operating System, Bash, Git and Github, Microsoft Excel, LaTeX.

University of Thessaly Lamia, Greece
Developer of Deep Learning Methods March, 2022 - August, 2022

- Participation as a developer for Deep Learning Methods, at the Research Project entitled "Clustering Big Data".

  - ***Responsibilities***: Research on Deep Learning methodologies, experiment implementation and execution, publication writing, report about research findings to the supervisor through reports and presentations.
  - ***Utilized Tools***: Python programming language, Data Science and Deep Learning Tools in Python such as Numpy, Pandas, Scikit-learn, Matplotlib, Seaborn, PyTorch, Keras and Tensorflow, Linux Operating System, Bash, Git and Github, Microsoft Excel, LaTeX.

SCHOLARSHIPS

- **2025**: Scholarship from the European Union-NextGeneration EU for implementing the project with title *"Bridging big omics, genetics and medical data for the broad implementation of Precision Medicine in Greece"* (Grant Number: 7558).
- **2022**: Scholarship from the University of Thessaly for implementing the project with the following title *"Supporting the educational activities of the University of Thessaly through remedial teaching in addition to the main lectures for the academic year 2021-2022"* (Grant Number: 1010700). During this scholarship i participated as a teaching staff

for the remedial teaching of the undergraduate subjects *"Mathematical Analysis II"* and *"Discrete Mathematics"* of the Department of Computer Science and Biomedical Informatics of the University of Thessaly.

PUBLICATIONS

Journals

- Ioannis A Nellas, Sotiris K Tasoulis, Spiros V Georgakopoulos, and Vassilis P Plagianakos. Two phase cooperative learning for supervised dimensionality reduction. Pattern Recognition, 144:109871, 2023.
- Leventelis, Christonikos, Petros T. Barmpas, Ioannis Nellas, Sotiris Tasoulis, Aristidis S. Veskoukis, and Maria Tsironi. 2024. "COVID-19 Pandemic Detrimentally Affects Craving and Quality of Life in Patients Under Medication-Assisted Treatment with Buprenorphine and Methadone: The Issue of Medication Dose" Psychiatry International 5, no. 4: 867-882. `https://doi.org/10.3390/psychiatryint5040059`

Conferences

- Ioannis A Nellas, Sotiris K Tasoulis, and Vassilis P Plagianakos. Convolutional variational autoencoders for image clustering. In 2021 International Conference on Data Mining Workshops (ICDMW), pages 695–702. IEEE, 2021.

Posters

- Alexandra Katsouli, Anna Karasavidou, Panagiotis Papadopoulos, Vasilios Stavropoulos, Elena Batsiari, Sotiris Tasoulis, Ioannis A Nellas, Petros T Barmpas, Aristidis S Veskoukis, Maria Tsironi, et al. Covid-19 pandemic urges patients under buprenorphine and methadone maintenance treatment to craving and to parallel illicit drug use. In *Lisbon Addictions, European Conference on Addictive Behaviours and Dependencies*, 2022.
- Panagiotis Papadopoulos, Alexandra Katsouli, Vasilios Stavropoulos, Anna Karasavidou, Sotiris Tasoulis, Ioannis A. Nellas, Aristidis S. Veskoukis, Maria Tsironi, and Christonikos Leventelis. Covid-19 pandemic negatively affected several aspects of quality of life of patients with substance use disorders under medication-assisted treatment with methadone and buprenorphine. In *Lisbon Addictions, European Conference on Addictive Behaviours and Dependencies*, 2022.

TECHNICAL SKILLS

- ***Operating Systems:*** Linux and Windows Operating Systems.
- ***Programming Languages:*** C, Python, R, Java, Octave, MATLAB, Bash.
- ***Web Development Stack:*** HTML, CSS, JavaScript.
- ***Statistical Software:*** SPSS.
- ***Data Visualization Software:*** Tableau.
- ***Data Science, Visualization and Deep Learning Tools in Python:*** PyTorch, Keras, Tensorflow, Numpy, Matplotlib, Seaborn, Pandas, Scikit-Learn.
- ***Data Science and Visualization Tools in R:*** tidyr, dplyr plotly, ggplot, caret.
- ***Databases:***
    - ***Relational Database Management Systems***: MySQL, SQL Server.
- ***Web frameworks:*** FastAPI, Spring Boot.
- ***Software Platform:*** Docker.
- ***Version Control Systems***: Git, Github, BitBucket.
- ***Document preparation:*** LaTeX and MS Office.

LANGUAGES

- ***Greek***: Fluent.
- ***English***: Proficient level (awaiting result announcement for a C2 degree - Expected time of degree retrieval March 2025).