# Emmanouil Georgios (Akis) Lionis

Amsterdam, Netherlands | akislionis@gmail.com | +30 697 951 92 43 | akislionis.github.io

linkedin.com/in/akis-lionis | github.com/lionisakis

## Education

**University of Amsterdam**, MSc in Artificial Intelligence                Sept 2023 – Current

- (unofficial) GPA: 8.17/10.0
- **Relevant Coursework:** Deep Learning, Natural Language Processing 1, Information Retrieval 1, Recommender Systems, Project Artificial Intelligence A: Global Embeddings in Learned Sparse Retrieval for Long Documents, Reinforcement Learning, Information Retrieval 2 (ungraded)
- **Thesis:** Learned Sparse Retrieval for Long Document by passing information from passage to passage.
  **Advisors**: PhD Dylan Ju, Angelos Nalmpantis (TKH supervisor), Dr. Andrew Yates and Dr. Sean MacAvaney
  **Under progress** and conducted as internship with **TKH Group** and **ELLIS honor program**
  The ELLIS Honor program connects UvA students with leading AI researchers. Students conduct their thesis under the supervision of two ELLIS Society members—one from Amsterdam and one from another European ELLIS unit—and participate in a sponsored visit to their co-supervisor.

**European Summer School on Information Retrieval (ESSIR)**                Jul 2024

- Participated in advanced lectures, workshops, and hands-on sessions on information retrieval, machine learning, and search engine technologies, gaining in-depth knowledge of the latest trends and research in the field.
- Focus Areas: Information Retrieval (IR), Recommender Systems (RecSys), Natural Language Processing (NLP), Machine Learning (ML), Artificial Intelligence (AI), Data Science (DS)

**National and Kapodestrian University of Athens**, BSc in Informatics and                Oct 2019 - Jul 2023
Telecommunications

- GPA: 8.21/10.0
- **Majors**:
  - Foundations of Computer Science
  - Data and Knowledge Management
- **Thesis:** Creating Ontology with the help of a ChatBot.
  Advisors: Post Doc Eleni Tsalapati, Prof. Manolis Koubarakis

**Univerisität Koblenz - Landau, Koblenz, Germany**, MSc in Informatics and Data                Oct 2021 – Feb 2022
Science

- **Erasmus+** (Scholarship)
- Completed a semester of academic study with a focus on international exchange and cross-cultural collaboration, enhancing global perspectives through teamwork with diverse peers and faculty.

## Experience

**Teaching Assistance**, University of Amsterdam – Amsterdam, Netherlands                Jan 2024 - Jan 2024

- Supervised and graded student groups in the AI MSc course on *Fairness, Accountability, Confidentiality, and Transparency in AI*, providing guidance on project work and evaluating performance.

**Software Engineer**, Twiki – Rotterdam, Netherlands                Dec 2023 - Dec 2024

- Designed and implemented an API schema using Flask, developed web scrapers for efficient API interaction, and collaborated with clients to identify system issues and deliver customized solutions.

**Data Assurance Engineer**, Optasia – Athens, Greece                Dec 2023 - Dec 2024

- Analyzed data integrity and completeness to ensure high-quality standards, using PySpark, Python, and SQL for data processing and validation.

**Personal Academic Tutor** – Athens, Greece                              Feb 2020 - Jul 2023

- Provided tutoring for a BSc student in Data Structures, Object Orientation, SQL, and Numerical Analysis, assisting with coursework and concept understanding.

## Volunteering

**Project Manager**, ESN KAPA Athens – Athens, Greece                    Jul 2023 - Dec 2024

- Coordinated and supervised projects at the National and Kapodistrian University of Athens, fostering collaboration and supporting initiatives for international students.

**Web Project Administrator**, ESN KAPA Athens – Athens, Greece          Sep 2022 - Jul 2023

- Managed site operations and contributed to technology development at the National and Kapodistrian University of Athens, using API, Python, Excel, and Google account systems.

## Projects

**Global Embeddings in Learned Sparse Retrieval for Long Documents**           Jul 2024

- Developed a model to process and encode passages from long documents, enhancing relevance scores for queries. Utilized RoBERTa for passage encoding and an LSTM network for generating global embeddings. Tools used: PySpark, Hydra, Python.

**Reproducibility Paper for ECIR 2025**                                  Jul 2024 - Oct 2024

- Submitted a reproducibility paper to **ECIR 2025**, currently awaiting results. Tools used: PySpark, Hydra, Python.

**Project AI: Global Embeddings in Learned Sparse Retrieval for Long Documents**     Jul 2024

- Developed a model to process and encode passages from long documents, enhancing query relevance scores. Utilized RoBERTa for passage encoding and an LSTM network for generating global embeddings. Tools used: PySpark, Hydra, Python.

**AI-Artificial-Intelligence projects**                                  github repository

- Computer-controlled snake attempts to solve the game using Search Algorithms (BFS, DFS, UCS, A*, Normal Hamiltonian Cycle) for navigation
- Language: Python

**ClownPunk**                                                            github repository

- Developed a game entirely from scratch within just 3 days for the Ludum Dare 49 game jam.
- Submitted to the event as Clownpunk, achieving 10th place in the Theme category.
- Tools Used: C#, Unity

## Skills

- **Programming Languages:** Python, C++, C, Java, Objective-C, C#, SQL, JavaScript
- **Technologies:** Pytorch, Hugging Face, Git, Github, Pandas, NumPy, SQL, Pyspark, Linux, Windows
- **Soft Skills:** Team Player, Listener, Communicative, Positive, Critical Thinker, Out of the box Thinker, Work Enthusiast, Work Ethic, Time organized
- **Language:** Greek (Native), English (Proficient), German (upper intermediate), Spanish (beginner)