

Danae Pla Karidi, PhD

Present Affiliations

Post Doctoral Researcher

Archimedes, Athena Research Center

Adjunct Assistant Professor

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Research Interests

Knowledge Graphs, Recommender Systems, Algorithmic Fairness, Explainable AI, Responsible AI, Social Media Mining, Fake News Detection, Information Credibility, Personalized Recommendations, Graph Analytics, Social Network Analysis, Retrieval Augmented Generation, Large Language Models, Automatic Archival Curation, Genetic Algorithms, Digital Libraries, Scientometrics, Information Retrieval, Data Mining, Deep Learning.

Research Summary

Ten years of research experience in knowledge graphs, recommender systems, social-network analysis, and data exploration. Extensive expertise in big-data analytics—employing statistical methods, data mining, and machine-learning algorithms. Specialized in differential privacy and data anonymization techniques. Currently focused on Responsible Artificial Intelligence, with an emphasis on fairness and explainability of machine-learning models and on Retrieval-Augmented-Generation pipelines.

Education

2015–2021	National Technical University of Athens (NTUA) , Athens, Greece <i>Ph.D. in Computer Science</i> Dissertation: Leveraging social networks and knowledge graphs for discovering and recommending engaging and credible information Supervisor: Prof. Yannis Vassiliou Thesis link
2014	School of Electrical & Computer Engineering, NTUA , Athens, Greece <i>M.Sc. in Electrical and Computer Engineering (integrated master)</i>
2007–2014	School of Electrical & Computer Engineering, NTUA , Athens, Greece <i>Diploma in Electrical and Computer Engineering</i> Grade: Very Good Diploma thesis: Analysing and detecting spam users on Twitter Supervisor: Prof. Yannis Vassiliou Thesis link

Research & Development Experience

2024–Present	Post Doctoral Researcher – Archimedes AI, Athena Research Center Responsible-AI research on fairness, explainability on graph-based recommenders. Retrieval-augmented-generation pipelines for fake news detection. Led projects in collaboration with industry partners and contributed to flagship projects.
2022–2023	Post Doctoral Researcher – Institute for the Management of Information Systems (IMSI), ATHENA Research Centre Led knowledge-graph construction and recommender system work packages in EU Horizon projects; delivered big-data analytics and social-network analysis modules.
2014–2022	Research Associate – IMSI, ATHENA Research Centre Conducted R&D on data mining, differential privacy, recommender systems, and social-network analytics; co-authored publications and produced software prototypes.
2014	Research Assistant – Institute of Communication and Computer Systems (ICCS), National Technical University of Athens Implemented algorithms for social-media bot detection and supported social-media data analytics within laboratory projects.

Teaching Experience

Winter 2025-2026	Adjunct Assistant Professor (independent teaching) – “Web Applications”, Department of Archival, Library & Information Studies, University of West Attica. Independently taught the course “Web Applications”, designed and delivered theory lectures independently, supervised five weekly group laboratory sessions, created educational material, assignments, and assessments.
Spring 2024-2025	Adjunct Assistant Professor (independent teaching) – “Analysis and Design of Information Systems,” Department of Archival, Library & Information Studies, University of West Attica. Independently designed and delivered theory lectures; supervised five weekly team-based lab sessions; created instructional materials, assignments, and assessments. Position funded by the European Social Fund and National Resources (Human Resources & Social Cohesion 2021–2027).

Thesis Supervision (Co-supervisor)

2025	“AI4Greenwashing” — G. Kaoukis (Archimedes internship)
2024	“Insights on Algorithmic Fairness Leveraging State-of-the-Art Explanation Methods” — V. Nikolaidou (Archimedes internship)
2023	“Data Privacy and Fairness in Machine Learning” — S. Vretteas (AUEB MSc thesis)
2022	“Impact of Anonymization on Machine Learning” — I. Tsekouras (AUEB MSc thesis)
2018	“Semantic Summarization of Content on Twitter” — M. Raptaki (NTUA diploma thesis)
2016	“Experimenting with Tweet Analysis Techniques on the Tay Chatter Bot” — V. Mathur (IAESTE internship)

Relevant Experience

Presentations:	Presented peer-reviewed papers at international conferences; presented research-project results internationally; created posters for academic and industry fairs; gave invited talks to industrial audiences.
Computer Languages:	Python; Java
Software Platforms:	Python ecosystem (Flask, NumPy, Pandas, Matplotlib, Scikit-learn, Plotly); Java stack (Eclipse, Apache Tomcat, Maven); machine-learning frameworks (TensorFlow, PyTorch, Weka); knowledge-graph tools (networkx, Gephi); LLM pipeline (LangChain)
Visualisation:	Matplotlib; Plotly; Gephi
Operating Systems:	DOS; Windows; Unix/Linux
Languages:	English (full professional); German (very good)

Scholarships & Academic Distinctions

2024–Present	Post-doctoral Scholarship, Archimedes, Athena Research Centre
2016	Thomaidion Award for Scientific Publications, National Technical University of Athens
2014	Excellence Scholarship for Graduate Studies in Greece (Siemens Programme), Athena Research Centre

Academic Service

2024–Present	Editorial Board Member – <i>Technical Annals</i> , Technical Chamber of Greece
2023	Organising Committee – 1 st Workshop on Advanced AI Techniques for Data Management and Analytics (AIDMA), co-located with ADBIS 2023
2023–Present	Reviewer – Online Social Networks and Media (OSNEM, Elsevier)
2024	Organising Committee – 1 st EETN Workshop on Responsible Artificial Intelligence (ReAI), co-located with SETN 2024
2024	Programme Committee – 13 th Conference on Artificial Intelligence (SETN 2024)
2025	Volunteers Chair – 8 th ACM Conference on Fairness, Accountability & Transparency (FAccT 2025)

Outreach & Community Engagement

2025	Organising Committee – 1 st Pan-Hellenic Student Competition on Artificial Intelligence
2024–2025	Organiser – “AI Insights Series: Expert Conversations for School Minds,” school-visit programme hosted at ARCHIMEDES
Oct 2024	Invited instructor – “Workshop for Responsible AI,” NN Hellas; covered ethical AI practices, transparency, and responsible implementation

Memberships & Professional Activities

Member, Technical Chamber of Greece

Member, Greek Electrical & Mechanical Engineer Association

Publications

Journal Publications (Peer-reviewed)

- [3] Vergoulis, T., Kanellos, I., Chatzopoulos, S., **Pla Karidi, D.**, & Dalamagas, T. (2021). *BIP4COVID19: Releasing impact measures for articles relevant to COVID-19. Quantitative Science Studies* – Special Issue “Scientific Knowledge Graphs and Research Impact Assessment”.
- [2] **Pla Karidi, D.**, Stavrakas, Y., & Vassiliou, Y. (2018). *Tweet and followee personalized recommendations based on knowledge graphs. Journal of Ambient Intelligence and Humanized Computing*, 9, 2035–2049.
- [1] **Pla Karidi, D.**, Nakos, H., Efentakis, A., & Stavrakas, Y. (2017). *CitySense: Combining geolocated data for urban-area profiling. International Journal on Advances in Software*, 10(3-4).

Conference Proceedings (Peer-reviewed)

- [10] Kaoukis, G., Koufopoulos, I., Psaroudaki, E., **Pla-Karidi, D.**, Pitoura, E., Papastefanatos, G., & Tsaparas, P. (2026). *EmeraldMind: A Knowledge Graph-Augmented Framework for Greenwashing Detection*. In *Proc. of the ACM on Web Conference 2026 (WWW 2026)*.
- [9] Kaoukis, G., Koufopoulos, I., Psaroudaki, E., **Pla-Karidi, D.**, Pitoura, E., Papastefanatos, G., & Tsaparas, P. (2026). *EmeraldApp: An AI-Driven Tool for Detecting Greenwashing in Sustainability Claims*. In *In Companion Proc. of the ACM on Web Conference 2026 (Beyond Facts 2026 @ WWW 2026)*.
- [8] Nakos, H., Dalamagas, T., Sartzetakis, S., Kapetanas, N., **Pla-Karidi, D.**, & Stavarakas, Y. (2025). *Semantically-enabled Data Spaces for Intelligent Data Asset Discovery*. In *Proc. 21st International Conference on Semantic Systems (SEMANTiCS 2025)*. CEUR-WS.
- [7] **Pla-Karidi, D.**, Chrysanthopoulos, C., & Triantafyllou, I. (2025). *Knowledge-Graph-Driven Retrieval-Augmented Generation for Exploring and Curating Active Archives*. In *Proc. 21st International Conference on Semantic Systems (SEMANTiCS 2025)*. CEUR-WS.
- [6] **Pla Karidi, D.** & Pitoura, E. (2025). *Path-Based Summary Explanations for Graph Recommenders*. In *Proc. 41st IEEE Int'l Conf. on Data Engineering (ICDE 2025)* (pp. 973–986). IEEE Computer Society.
- [5] Fragkathoulas, C., Papanikou, V., **Pla Karidi, D.** & Pitoura, E. (2024). *On Explaining Unfairness: An Overview*. In *Proc. 40th IEEE Int'l Conf. on Data Engineering Workshops (ICDEW 2024)*.
- [4] **Pla Karidi, D.**, Nakos, H., & Stavarakas, Y. (2019). *Automatic Ground-Truth Dataset Creation for Fake-News Detection in Social Media*. In *Proc. Int'l Conf. on Intelligent Data Engineering and Automated Learning (IDEAL 2019)*.
- [3] **Pla Karidi, D.**, Nakos, H., Efentakis, A., & Stavarakas, Y. (2017). *CitySense: Retrieving, Visualizing and Combining Datasets on Urban Areas*. In *Proc. DBKDA 2017* (p. 70).
- [2] **Pla Karidi, D.**, Stavarakas, Y., & Vassiliou, Y. (2016). *A Personalized Tweet Recommendation Approach Based on Concept Graphs*. In *Proc. 2016 IEEE UIC/ATC/ScalCom/CBDCoM/IoP/SmartWorld* (pp. 253–260).
- [1] **Pla Karidi, D.** (2016). *From User Graph to Topics Graph: Towards Twitter Followee Recommendation Based on Knowledge Graphs*. In *Proc. 32nd IEEE Int'l Conf. on Data Engineering Workshops (ICDEW 2016)* (pp. 121–123).

Posters & Presentations

- [4] **Pla Karidi, D.** & Pitoura, E. (2025). *Path-Based Summary Explanations for Graph Recommenders*. In *Proc. 19th Hellenic Data Management Symposium (HDMS 2025) – Research Track*.
- [3] Kaoukis, G., Koufopoulos, J., Psaroudaki, E., **Pla Karidi, D.**, Papastefanatos, G., Pitoura, E., & Tsaparas, P. (2025). *GreenRAG: RAG-Based Greenwashing Detection*. Poster presented at the ELLIS Workshop on Misinformation Detection (ELLIS MIS 2025).
- [2] Papanikou, V., Fragkathoulas, C., **Pla Karidi, D.**, & Pitoura, E. (2024). *On Explaining Unfairness: An Overview*. Poster presented at the 18th Hellenic Data Management Symposium (HDMS 2024).
- [1] Papanikou, V., Fragkathoulas, C., **Pla Karidi, D.**, & Pitoura, E. (2024). *Explanations for Algorithmic Fairness*. Poster presented at the 6th Summit on Gender Equality in Computing (GEC 2024).

Thesis

- [2] **Pla Karidi, D.** (2022). *Leveraging Social Networks and Knowledge Graphs for Discovering and Recommending Engaging and Credible Information*. Doctoral dissertation, National Technical University of Athens.
- [1] **Pla Karidi, D.** (2014). *Analysis and Classification of Twitter Users* (in Greek). Diploma thesis, School of Electrical & Computer Engineering, National Technical University of Athens.

Works Under Review

- [2] Papanikou, V., **Pla-Karidi, D.**, Pitoura, E., Panagiotou, E., & Ntoutsi, E. (2025). *Explanations as Bias Detectors: A Critical Study of Local Post-hoc XAI Methods for Fairness Exploration*. Submitted to the Journal of Artificial Intelligence Research (JAIR).
 - [1] **Pla-Karidi, D.** & Pitoura, E. (2025). *Path-Based Summary Explanations for Graph Recommenders: Enhanced Summarisation Algorithms and Fairness Evaluation*. Extended version of the ICDE 2025 paper; currently under review (IEEE Transactions on Knowledge and Data Engineering).
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Research & Development Projects

2025 – Present	MarinerMuse II (Coordinator) – Upgraded maritime analytics tool for operational deployment on Corinth Canal.
2025 – Present	Optimising Athens Metro (Coordinator) – Analytics & optimisation study for Metro Lines 2 & 3 (STASY).
2024–Present	AI4Greenwashing (Archimedes Flagship) – Designed KG- and RAG-powered tools & datasets for greenwashing detection.
2024–Present	DataBri-X and UNDERPIN (EU HE, ongoing) – Contributing the “KnowDE” knowledge-graph recommender module.
2023–2024	Data for Social Good (Coordinator) – Led cross-disciplinary teams; produced five data-driven tools (EurekaPower, HydroForecast, RideInsight, CustomerSuccess, MarinerMuse).
2021–2023	MORE (H2020 GA 957345) – Big-data analytics and knowledge-graph mining platform.
2020–2021	MEDA.2 (National) – Knowledge-based data exploration.
2020	INODE (H2020 GA 863410) – Interactive natural-language access to heterogeneous data.
2020–Present	KnowDE – Creator & maintainer of a knowledge-based data-exploration recommender platform.
2018–2020	VR-Park (National) – VR analytics and visitor-experience optimisation.
2017–2019	CitySense (National) – Urban visualization & geospatial data aggregation platform.
2017	Analysis of Twitter Usage in Greece – Published within the 59th socio-political Subscription Survey TESIS (MRB Hellas, June 2017).
2015–2017	DIACHRON and KAME – Knowledge-based analysis of fake-news detection and monitoring in social networks.
2014–2016	MEDA (National) – Knowledge-based recommendations for social networks.
2014–2015	RealEstate 2.0 (National) – Infrastructure for mining, collecting, integrating, and consolidating real-estate-related data from administrative sources, tourism websites, and social-media pages.
2014	Twitter Spam Detector – Developed early spam-user detection tool for Twitter.