

Maria Despoina Siampou

✉ siampou@usc.edu | 🌐 <https://msiampou.github.io/> | 📄 msiampou

Education

University of Southern California

Ph.D. in Computer Science

- Advisor: Cyrus Shahabi

Los Angeles, CA

Aug. 2022 – Present

National and Kapodistrian University of Athens

M.Sc. in Computer Science, GPA: 9.67/10

- Thesis: Supervised Scheduling for Geospatial Interlinking
- Advisor: Manolis Koubarakis

Athens, Greece

Oct. 2020 – July 2022

National and Kapodistrian University of Athens

B.Sc. in Computer Science, GPA: 8.5/10

- Thesis: Extending YAGO4 with Geospatial Knowledge
- Advisor: Manolis Koubarakis

Athens, Greece

Sep. 2016 – Sep. 2020

Experience

University of Southern California

Graduate Research Assistant, InfoLab

- Developing modeling approaches for representing geospatial data (e.g., points, polylines, polygons) and mobility trajectories, enabling geo-foundation models to effectively interpret and learn from spatial inputs.

Los Angeles, CA

Aug. 2022 – Present

Google Research

Student Researcher

- Collaborated with the SpaceTime team on spatially grounded multimodal alignment of visual and geospatial data.
- Hosts: Shushman Choudhury, Neha Arora

Mountain View, CA

May 2025 – Aug. 2025

National and Kapodistrian University of Athens

Research Associate, AI Team

- Focused on interlinking geospatial data in the semantic web by leveraging topological relationships and optimizing the pipeline with supervised methods.

Athens, Greece

Mar. 2021 – Jul. 2022

Amazon Web Services

Software Development Engineer Intern, Redshift Database

- Added support for spatial window functions (e.g. ST_Kmeans) in Amazon Redshift.
- Manager: Hinnerk Gildhoff, Mentors: Menelaos Karavelas, Ioanna Tsalouchidou, Eric Biagioli

Berlin, Germany

Sep. 2020 – Feb. 2021

Publications

PEER REVIEWED PUBLICATIONS

- C1 **M.D. Siampou**, S.-L. Hsu, S. Choudhury, N. Arora, and C. Shahabi. “Toward Foundation Models for Mobility Enriched Geospatially Embedded Objects (Vision).” *ACM International Conference on Advances in Geographic Information Systems (SIGSPATIAL)*, 2025.
- C2 B. Azarjoo, **M.D. Siampou**, J. Krumm, and C. Shahabi. “ICAD: A Self-Supervised Autoregressive Approach for Multi-Context Anomaly Detection in Human Mobility Data.” *ACM International Conference on Advances in Geographic Information Systems (SIGSPATIAL)*, 2025.
- C3 **M.D. Siampou**, J. Li, J. Krumm, C. Shahabi, and L. Hu. “Poly2Vec: Polymorphic Fourier-Based Encoding of Geospatial Objects for GeoAI Applications.” *International Conference on Machine Learning (ICML)*, 2025.

- C4 **M.D. Siampou**, C. Anastasiou, J. Krumm and C. Shahabi. “TrajRoute: Rethinking Routing with a Simple Trajectory-Based Approach – Forget the Maps and Traffic!”
IEEE International Conference of Mobile Data Management (MDM), 2025.
- C5 M. Papamichalopoulos, G. Papadakis, G. Mandilaras, **M.D. Siampou**, N. Mamoulis, and M. Koubarakis. “Three - Dimensional Geospatial Interlinking with Jedai-Spatial.”
Journal of Web Semantics, 2024.
- C6 **M.D. Siampou**, L. Nocera, J. Oh, B. Smith, and C. Shahabi. “An Algorithmic Approach for Detecting Neuromotor Developmental Disabilities in Infants from Wearable Sensor Data.”
IEEE International Conference of Engineering in Medicine and Biology Society (EMBC), 2024.
- C7 A. Hajisafi, **M.D. Siampou**, J. Bi, L. Nocera, and C. Shahabi. “Wearables for Health (W4H) Toolkit for Acquisition, Storage, Analysis, and Visualization of Data from Various Wearable Devices.”
IEEE International Conference of Data Engineering (ICDE), 2024.
- C8 **M.D. Siampou**, G. Papadakis, N. Mamoulis, and M. Koubarakis. “Supervised Scheduling for Geospatial Interlinking.”
ACM International Conference on Advances in Geographic Information Systems (SIGSPATIAL), 2023.
- C9 A. Hajisafi, H. Lin, S. Shaham, H. Hu, **M.D. Siampou**, Y-Y. Chiang, and C. Shahabi. “Learning Dynamic Graphs from All Contextual Information for Accurate Point-of-Interest Visit Forecasting.”
ACM International Conference on Advances in Geographic Information Systems (SIGSPATIAL), 2023.
- C10 **M.D. Siampou**, N. Karalis, M. Koubarakis. “Extending YAGO4 Knowledge Graph with Geospatial Knowledge.”
International Workshop on Geospatial Linked Data (GeoLD) @ ESWC, 2022.

PREPRINTS

- P1 A. Hajisafi, **M.D. Siampou**, B. Azarijoo and C. Shahabi. “WaveGNN: Modeling Irregular Multivariate Time Series for Accurate Predictions.”, arXiv 2024.

Selected Honors & Awards

- 2025-26 **Philomela Myronis Endowed Dissertation Fellowship**, University of Southern California
2025 **Scholarship**, Gerontelis Foundation Inc.
2022-23 **Annenberg Fellowship**, University of Southern California
2017-20 **Scholarship for Top Undergraduate Students**, National Scholarship Foundation of Greece
2016 **Award for Outstanding Performance in Panhellenic Exams**, HelleniQ Energy

Teaching

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|-----------|--|------|
| F:24/S:25 | Teaching Assistant , Geospatial Information Management (graduate class) | USC |
| S:21/S:22 | Teaching Assistant , Data Structures & Algorithms (undergraduate class) | NKUA |
| F:20/F:21 | Teaching Assistant , Artificial Intelligence (undergraduate class) | NKUA |
| S:21 | Teaching Assistant , Systems Programming (undergraduate class) | NKUA |

Leadership, Service, & Extracurricular Activities

SERVICE AND OUTREACH

- 2022-Pr. **USC Women in Engineering (WiSE) Mentorship Program**, Graduate Student Mentor
2024 **USC Viterbi CURVE Program**, Research Mentor to Undergraduate Students
2024 **USC Viterbi SHINE Program**, Research Mentor to High School Students
2024 **ACM SIGSPATIAL**, Student Volunteer
2023/24 **IEEE ICDE**, Student Volunteer
2019 **ACM Student Chapter - University of Athens**, Organizing Member

EXTERNAL REVIEWER

TKDE 2024/2025, SIGKDD 2025, ICDE 2024