MARIA DESPOINA SIAMPOU

Email: siampou@usc.edu

Google Scholar ◇ Github ◇ LinkedIn

EDUCATION

University of Southern California (USC)   Aug. 2022 – Present
Ph.D. in Computer Science
Advisor: Cyrus Shahabi

National and Kapodistrian University of Athens (NKUA)   Sep. 2020 – Jul. 2022
M.Sc. in Computer Science, GPA: 9.67/10.0 (honors)
Advisor: Manolis Koubarakis
Thesis: Supervised Progressive Geospatial Interlinking

National and Kapodistrian University of Athens (NKUA)   Sep. 2016 – Jul. 2020
B.Sc. in Computer Science, GPA: 8.50/10.0 (honors)
Advisor: Manolis Koubarakis
Thesis: Extending YAGO4 with Geospatial Knowledge

PUBLICATIONS

1. **M.D. Siampou***, J. Li*, J. Krumm, C. Shahabi, and L. Hu. *"Poly2Vec: Polymorphic Encoding of Geospatial Objects for Spatial Reasoning with Deep Neural Networks."*
   arXiv (Under Review), 2024

2. **M.D. Siampou**, C. Anastasiou, J. Krumm and C. Shahabi. *"TrajRoute: Rethinking Routing with a Simple Trajectory-Based Approach – Forget the Maps and Traffic!"*
   arXiv (Under Review), 2024

3. A. Hajisafi*, **M.D. Siampou***, B. Azarijoo and C. Shahabi. *"WaveGNN: Modeling Irregular Multivariate Time Series for Accurate Predictions."*
   (Under Review), 2024

4. 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

5. **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."*
   International Conference of IEEE Engineering in Medicine and Biology Society (EMBC), 2024

6. 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

7. **M.D. Siampou**, G. Papadakis, N. Mamoulis, and M. Koubarakis. *"Supervised Scheduling for Geospatial Interlinking."*
   International Conference on Advances in Geographic Information Systems (SIGSPATIAL), 2023

8. 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"*,
   International Conference on Advances in Geographic Information Systems (SIGSPATIAL), 2023

9. **M.D. Siampou**, N. Karalis, M. Koubarakis. *"Extending YAGO4 Knowledge Graph with Geospatial Knowledge."*
   International Workshop on Geospatial Linked Data (GeoLD) @ ESWC, 2022

PROFESSIONAL EXPERIENCE

Graduate Research Assistant   Aug. 2022 – Present
InfoLab @ USC   Los Angeles, CA

· Research Focus: Encoding techniques for spatial vector data (e.g. trajectories, polygons), modeling and analysis of spatial and spatio-temporal data types

Researcher   Mar. 2021 – Jul. 2022
AI Team @ NKUA   Athens, Greece

· R&D Engineer at Europen Funded Horizon 2020 Projects: AI4Copernicus and DeepCube
· Research Focus: Optimization of geospatial interlinking pipelines with supervised methods

SDE Intern   Sep. 2020 – Feb. 2021
Amazon Web Services, Redshift Database   Berlin, Germany

· Focus: Implementation of spatial window functions (e.g. ST_Kmeans)
· Manager: Hinnerk Gildhoff, Mentors: Menelaos Karavelas, Ioanna Tsalouchidou, Eric Biagioli

SCHOLARSHIPS, HONORS AND AWARDS

Fellowships and Scholarships

· Annenberg Graduate Fellowship, USC   *2023*
· Tuition Exception for Master Studies granded to Top Applicants, NKUA   *2020*
· Scholarship for Top Undergraduate Students, Greek State Scholarship Foundation   *2017, 2018, 2019*

Awards & Achievements

· WiSE Travel Grant for Graduate Students and Postdoctoral Scholars ($700)   *2024*
· NSF Travel Award to attend IEEE ICDE ($1300)   *2024*
· Accepted into CRA-WP Grad Cohort (with funding to attend) NSF-funded Workshop   *2023*
· NSF Travel Award to attend ACM SIGSPATIAL ($1200)   *2023*
· USC GSG Professional Development Fund ($500)   *2023*
· NSF Travel Award to attend IEEE ICDE ($450)   *2023*
· Award for Outstanding Performance in Panhellenic Exams, HelleniQ Energy ($1500)   *2016*

TEACHING EXPERIENCE

Graduate Teaching Assistant   Fall 2024 – Spring 2025
CSCI 587: Geospatial Information Management   USC

· Designed assignments on spatial indexes, spatial kNN queries, and traffic forecasting with GNNs, prepared and presented lectures on computational geometry, data-driven routing approaches, and geospatial encoding approaches, graded exams and assignments, held weekly office hours.

Graduate Teaching Assistant   Fall 2020 – Spring 2022
Artificial Intelligence, Data Structures & Algorithms, Systems Programming   NKUA

· Prepared and presented assignment tutorials, graded assignments, led Q&A discussion on Piazza.

Undergraduate Teaching Assistant   Spring 2020
Data Structures & Algorithms   NKUA

· Volunteering position offered to student with excellent course grade (>8/10).
· Developed parts of the course code base for tree structures, led Q&A discussion on Piazza, assisted during lab hours.

SKILLS

Technical Skills: C++, C, Python, Java, SQL, PyTorch, scikit-learn, pandas, NumPy, Docker, Git
Languages: Greek (native), English (proficient), German (basic)

SERVICE & OUTREACH

External Reviewer

· ICDE 2024, TKDE 2024

Leadership and Other Professional Activities

· Student Volunteer: SIGSPATIAL 2024, ICDE 2023 & 2024, SPLASH 2019
· Graduate Student Mentor, USC Women in Engineering (WiSE) Mentorship Program   *2023–Present*
· Research Mentor to High School Students, USC Viterbi's SHINE Program   *Summer 2024*
· Organizing Member, ACM Student Chapter, NKUA   *2019*
· Undergraduate Volunteer Lab Assistant, in Object Oriented Programming, Computer Architecture, Data Structures & Algorithms courses, NKUA   *2017–2019*