# Marios A. Papachristou (Last Updated: September 19, 2022)

Contact Information E-mail GitHub Office

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Google Scholar

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Interests

Areas: Social and Information Networks, Machine Learning, Data Mining, Algorithms Foci: Statistical Modeling of Networks, Financial Networks, Graph ML

**EDUCATION** 

### Cornell University

2020 - exp. 2026

Ph.D. in Computer Science (GPA: 4.0/4.0), Minor: Applied Math

- Advisor: Jon Kleinberg, Committee: Jon Kleinberg, Emma Pierson, Sid Banerjee
- Relevant Coursework: Analysis of Algorithms, Information Networks, Numerical Methods for Data Science, Design of Online Marketplaces, ML Theory

M.S. in Computer Science, Minor: Applied Math (GPA: 4.0/4.0)

2020-2022

## National Technical University of Athens

2015-2020

Diploma in ECE (GPA: 9.49/10.00). Major: Computer Science.

[paper] [code] [data] [slides] [poster]

Thesis: "Stochastic Opinion Dynamics for Interest Prediction in Online Social Networks". Advisor: Dimitris Fotakis.

#### Publications

- 1. Papachristou, Marios, Banerjee, Sid, and Kleinberg, Jon. "Dynamic Interventions for Networked Contagions". EAAMO 2022 (poster). [preprint] [code] [poster]
- 2. Papachristou, Marios, and Kleinberg, Jon. "Core-periphery Models for Hypergraphs". KDD 2022.
- 3. Papachristou, Marios, and Kleinberg, Jon. "Allocating Stimulus Checks in Times of Crisis". WWW 2022. [preprint] [code] [paper] [talk] [slides]
- 4. Papachristou, Marios. "Sublinear Domination and Core-periphery Networks". Scientific Reports (Nature), 2021. [paper] [code]
- 5.  $^{\alpha\beta}$ Chalkis, Apostolos, Fisikopoulos Vissarion, **Papachristou, Marios**, and Tsigaridas, Elias. "Truncated Log-concave Sampling with Reflective Hamiltonian Monte Carlo". Preprint, 2021. [preprint] [code]
- 6. Papachristou, Marios, and Fotakis, Dimitris. "Stochastic Opinion Dynamics for User Interest Prediction in Online Social Networks". Preprint, 2020. [preprint]
- 7. Papachristou, Marios. "Software clusterings with vector semantics and the call graph". ESEC/FSE 2019. [paper] [code] [data] (ESEC/FSE Student Research Competition Finalist Paper)
- 8. Kostakis, Vasilis\*, and Papachristou, Marios\*. "Commons-based peer production and digital fabrication: The case of a RepRap-based, Lego-built 3D printing-milling machine". Telematics and Informatics, 2014. [paper]

Research EXPERIENCE

# Twitter Cortex (Research Internship)

May 2022 - August 2022

Research on scalable Graph Machine Learning.

 $<sup>\</sup>alpha\beta$  = alphabetical order, \* = equal contribution

	Cornell University (Graduate Research Assistant)		2021 -
	GeomScale Organization  — Part-time research on sampling from truncated log-concave densities, and convex optimization, working on the volesti open-source package.		
Professional Experience	Business Analytics Lab (Undergraduate Researcher) 2018 – 2020 – Project: SADE. Architecture recovery via call graphs, source code embeddings, and clustering methods.		
	Hellenic Center for Marine Research	June 2014 – August	2014
	P2P Lab (Remote Research Associate)	2013-	-2014
	Google Summer of Code 2020 (GeomScale)	June 2020– August	2020
	<ul> <li>Project: Sampling from high-dimensional truncated log-concave densities.</li> <li>[code] [talk1] [talk2]</li> </ul>		
	Google Summer of Code 2018 (GFOSS-OTA)	April 2018–September	2018
	<ul> <li>Project: 3gm. Automated codification of Greek Legislation.</li> <li>[code] [data] [talk]</li> </ul>		
	Ratle (Co-founder)	October 2017–October	2018
TEACHING	Undergraduate Teaching Assistant (NTUA)  - Discrete Mathematics (4th Semester)  - Programming Techniques (2nd Semester)  - Introduction to Computer Programming (1st Seme	Spring Spring ster) Fall 2016, Fall	2016
Honors & Awards	<ul> <li>LinkedIn Ph.D. Fellowship</li> <li>A.G. Leventis Scholarship</li> <li>Chateaubriand Fellowship (declined)</li> <li>Cornell Fellowship</li> <li>Thomaidion Award</li> <li>ESEC/FSE 2019 ACM Student Research Competit</li> <li>4th (out of 93) in International Space Engineering</li> <li>2nd Award at the "be finnovative 2.0 accelerator"</li> <li>1st Award at "Crowdhackathon Fintech #2"</li> <li>Top %1 worldwide in IEEEXtreme 11.0 Programm</li> <li>Touramanoglu Scholarship</li> <li>"The Great Moment of Education" Scholarship</li> </ul>	Competition (CanSat)	2022 2022 2022 2020 2019 2019 2019 2018 2017 2017 2017 2015
SERVICE	- Program Committee. FAccT '22		

- Reviewer. JOSS, WHMD@NeurIPS '21, OR Spectrum

2021, 2022

2019

- Mentor. Google Summer of Code Mentor

 $\circ\,$  GeomScale organization

 $\circ~{\rm GFOSS\text{-}OTA}$