

Marios Papachristou

PERSONAL INFORMATION	E-mail	mp2242@cornell.edu
	Phone	(607)-262-5495
	Website	papachristoumarios.github.io
	Nationality	Greek, US Permanent Resident (Green Card Holder)
RESEARCH INTERESTS	Algorithms, Network Economics, Supply Chains, Systemic Risk, LLMs, Differential Privacy, Machine Learning, Data Mining, Computational Social Science	
EDUCATION	Cornell University	2020 – Expected 2025
	Ph.D. in Computer Science, Minor: <i>Applied Mathematics</i> – <i>Advisor</i> : Jon Kleinberg	
	M.S. in Computer Science	2020 – 2022
	National Technical University of Athens	2015 – 2020
INDUSTRY EXPERIENCE	Diploma in Electrical and Computer Engineering Major: <i>Computer Science</i> . – <i>Advisor</i> : Dimitris Fotakis – Top 2% of graduating class	
	Microsoft Research	Summer 2023
	Office of Applied Research, <i>with Chin-Chia Hsu and Longqi Yang</i>	
	Twitter	Summer 2022
SELECTED HONORS & AWARDS	User Modeling Research Group, <i>with Rishab Goel, Frank Portman, Matt Miller</i>	
	– LinkedIn Ph.D. Fellowship	2022
	One-year fully funded fellowship by LinkedIn. Acceptance rate 14%.	
	– Onassis Scholarship	2023
	Three-year fellowship for Greek Ph.D. students. Acceptance rate: 16%.	
	– A.G. Leventis Scholarship	2022
	Award for graduate students of Greek origin. Acceptance rate 12.5%.	
	– Chateaubriand Fellowship	2022
	Fellowship granted by the French Embassy in the US for studies in France (declined for personal reasons). Acceptance rate 33%.	
	– Cornell Fellowship	2020
	One-year fully funded fellowship by the CS department based on “exceptional preparation and promise”.	
	– IEEEExtreme 11.0 Programming Competition	2017
	Top 1% worldwide in IEEE’s algorithms competition.	

PAPERS

[Google Scholar Profile](#)

$\alpha\beta$ = alphabetical order

* = equal contribution

Selected Papers

- [S1] **Optimal Resource Allocation for Remediating Networked Contagions**
Marios Papachristou, Sid Banerjee, Jon Kleinberg
Major Revision (submitted R&R), Management Science, 2024
[\[preprint\]](#)
- [S2] **Network Formation and Dynamics among Multi-LLMs**
Marios Papachristou, Yuan Yuan
Working Paper, 2024
[\[preprint\]](#) [\[slides\]](#)

[S3] **Structural Measures of Resilience for Supply Chains**

Marios Papachristou, Amin Rahimian

Under review at Management Science, 2024

[\[preprint\]](#) [\[code\]](#) [\[slides\]](#)

[S4] **Allocating Stimulus Checks in Times of Crisis**

Marios Papachristou, Jon Kleinberg

ACM Web Conference (WWW), 2022

[\[paper\]](#) [\[code\]](#) [\[talk\]](#) [\[slides\]](#) [\[news\]](#)

Journal Papers

[J1] **Differentially Private Distributed Estimation and Learning**

Marios Papachristou, Amin Rahimian

IJSE Transactions, 2024

[\[paper\]](#) [\[code\]](#) [\[talk\]](#)

[J2] **Sublinear Domination and Core-periphery Networks**

Marios Papachristou

Scientific Reports (Nature Portfolio), 2021

[\[paper\]](#) [\[code\]](#)

[J3] **Truncated Log-concave Sampling for Convex Bodies with Reflective Hamiltonian Monte Carlo**

$\alpha\beta$ Apostolos Chalkis, Vissarion Fisikopoulos, *Marios Papachristou*, Elias Tsigaridas

ACM Transactions on Mathematical Software (TOMS), 2023

[\[paper\]](#) [\[code\]](#)

[J4] **Commons-based peer production and digital fabrication: The case of a RepRap-based, Lego-built 3D printing-milling machine**

Vasilis Kostakis*, and *Marios Papachristou**

Telematics and Informatics, 2014

[\[paper\]](#)

Refereed CS Conference Proceedings

[C1] **Dynamic Interventions for Networked Contagions**

Marios Papachristou, Sid Banerjee, Jon Kleinberg

ACM Web Conference (WWW), Economics and Markets Track, 2023

[\[paper\]](#) [\[code\]](#) [\[poster\]](#) [\[slides\]](#)

[C2] **Core-periphery Models for Hypergraphs**

Marios Papachristou, Jon Kleinberg

ACM Intl. Conf. on Knowledge Discovery and Data Mining (KDD), 2022

[\[paper\]](#) [\[code\]](#) [\[data\]](#) [\[slides\]](#) [\[poster\]](#)

[C3] **Allocating Stimulus Checks in Times of Crisis**

Marios Papachristou, Jon Kleinberg

ACM Web Conference (WWW), Economics and Markets Track, 2022

[\[paper\]](#) [\[code\]](#) [\[talk\]](#) [\[slides\]](#) [\[news\]](#)

[C4] **Software Clusterings with Vector Semantics and the Call Graph**

Marios Papachristou

ACM Joint Meeting on European Software Engineering Conference and Symposium on the Foundations of Software Engineering (ESEC/FSE), 2019

[\[paper\]](#) [\[code\]](#) [\[data\]](#)

(ESEC/FSE Student Research Competition Finalist Paper)

Preprints & Working Papers

- [WP1] **Optimal Resource Allocation for Remediating Networked Contagions**
Marios Papachristou, Sid Banerjee, Jon Kleinberg
Major Revision (submitted R&R), *Management Science*, 2024
[\[preprint\]](#) [\[slides\]](#)
- [WP2] **Group Decision-Making among Privacy-aware Agents**
Marios Papachristou, Amin Rahimian
Under review at *Operations Research*, 2024
Preliminary version presented at the *Theory and Practice of Differential Privacy Workshop (TPDP)*
[\[preprint\]](#) [\[talk\]](#)
- [WP3] **Network Formation and Dynamics among Multi-LLMs**
Marios Papachristou, Yuan Yuan
Working paper, 2024
Preliminary version presented at the *International Conference on Computational Social Science (IC2S2)*
[\[preprint\]](#) [\[slides\]](#)
- [WP4] **Leveraging Large Language Models for Collective Decision-Making**
Marios Papachristou, Longqi Yang, Chin-Chia Hsu
Major revision at *CSCW*, 2024
Preliminary version presented at the *LLMs as Research Tools at CHI 2024*
[\[preprint\]](#) [\[slides\]](#)
- [WP5] **Structural Measures of Resilience for Supply Chains**
Marios Papachristou, Amin Rahimian
Under review at *Management Science*, 2024
[\[preprint\]](#) [\[code\]](#) [\[slides\]](#)
- [WP6] **The Power of Choice in Random Sampling**
Marios Papachristou, Jon Kleinberg
Under review, 2024
Preprint available upon request
- [WP7] **Echoes of Disagreement: Measuring Disparity in Social Consensus**
Marios Papachristou, Jon Kleinberg
Under review, 2024
Preprint available upon request

Refereed CS Workshops

- [W1] **GLINKX: A Scalable Unified Framework for Homophilous and Heterophilous Graphs**
Marios Papachristou, Rishab Goel, Frank Portman, Matt Miller, Rong Jin
NeurIPS workshop on Graph Learning Frontiers (GLFrontiers), 2022
Provisional patent application submitted
[\[paper\]](#) [\[poster\]](#)

OTHER EXPERIENCE

GeomScale Open-source Organization May 2020 – March 2020
Sampling from truncated log-concave densities, and convex optimization, working on the *volesi* open-source package with Dr. Apostolos Chalkis, Dr. Vissarion Fisikopoulos, and Dr. Elias Tsigaridas

Athens University of Economics and Business 2018 – 2020
Department of Management Science and Technology, with Prof. Diomidis Spinellis

Google Summer of Code 2020 (GeomScale) June 2020 – August 2020
 Sampling from high-dimensional truncated log-concave densities, *with Dr. Apostolos Chalkis, Dr. Vissarion Fisikopoulos, and Dr. Elias Tsigaridas*
[\[code\]](#) [\[talk\]](#)

Google Summer of Code 2018 (GFOSS-OTA) April 2018–September 2018
 Automated codification of Greek Legislation, *with Prof. Diomidis Spinellis*
[\[code\]](#) [\[data\]](#) [\[talk\]](#)

Researcher – P2P Lab 2013 – 2014

TEACHING &
MENTORSHIP
EXPERIENCE

- The Structure of Information Networks (PhD-level, Cornell) Spring & Fall 2023
- Discrete Mathematics (NTUA) Spring 2017
- Programming Techniques (NTUA) Spring 2016
- Introduction to Computer Programming (NTUA) Fall 2016, Fall 2017
- Student-applicant Support Program at Cornell CIS 2022
- Google Summer of Code Mentor 2019–2022
- Volunteer lessons for the National Olympiad of Informatics (PDP) 2019

INVITED TALKS &
LECTURES

[†]= scheduled

*= presented by co-author

- ***From Spread to Stability: Insights into Network Dynamics and Resilience*** June 2024
 - MIT, Research Group Meeting
- ***Network Formation and Dynamics among Multi-LLMs***
 - INFORMS Annual Meeting[†] October 2024
 - IBM Research, Exploratory Math Sciences Council Seminar April 2024
 - UIUC, Guest Lecture at the Network Analysis Course April 2024
 - Cornell University, AIPP Group March 2024
 - Learning on Graphs (LoG) NYC Meetup February 2024
- ***Information Aggregation and Distributed Learning in Privacy-critical Environments***
 - TOC4Fairness Online Seminar Series* March 2024
 - Information: Theory and Applications (ITA) Workshop* February 2024
 - Rutgers University Business School, Seminar* November 2023
- ***Leveraging Large Language Models for Collective Decision-Making***
 - LLMs as Research Tools: Applications and Evaluations in HCI Data Work
Workshop, ACM Conference on Human-Computer Interaction* May 2024
 - Microsoft Research, Invited Applied Research Talks August 2023
- ***Structural Measures of Resilience for Supply Chains***
 - NSF Conference on Network Science and Economics April 2024
 - Columbia University, Student Theory Seminar November 2023
 - Cornell University, Theory Tea November 2023
 - INFORMS Annual Meeting* October 2023
 - Cornell University, LinkedIn Campus Visit May 2023
- ***Resource Allocation in a Financial Contagion Environment***
 - University of Chicago, Theory Seminar October 2023
 - Indiana University, Center for Complex Networks and Systems Research
September 2023
 - Cornell University, CS 6850 Guest Lecture April 2023
 - Cornell University, Theory Seminar November 2022
- ***Dynamic Interventions for Networked Contagions***
 - INFORMS Annual Meeting October 2023
 - ACM Web Conference April 2023
 - ACM Conference on Equity and Access in Algorithms, Mechanisms, and
Optimization October 2022

- *Core-periphery Models for Hypergraphs*
 - ACM Conference on Knowledge Discovery and Data Mining August 2022
- *GLINKX: A Scalable Unified Framework for Homophilous and Heterophilous Graphs*
 - NeurIPS Workshop on Graph Learning Frontiers December 2022
 - Twitter, Machine Learning Seminar August 2022
- *Allocating Stimulus Checks in Times of Crisis*
 - ACM Web Conference April 2022
 - ACM Conference on Equity and Access in Algorithms, Mechanisms, and Optimization October 2021
- *Sampling from Truncated High Dimensional Logconcave Densities*
 - PyData Global December 2020
- *Software Clusterings with Vector Semantics and the Call Graph*
 - ACM Joint Meeting on European Software Engineering Conference and Symposium on the Foundations of Software Engineering August 2019

PROFESSIONAL SERVICE

Program Committee

- ACM Conference on Fairness Accountability and Transparency (FAccT) 2022
- ACM Conference on Knowledge Discovery and Data Mining (KDD) 2023

Reviewer

- International Conference on Computational Social Science (IC2S2) 2024
- ACM Web Conference (WWW) 2024
- Innovations in Theoretical Computer Science (ITCS) 2024
- ACM Conference on Human Factors in Computing (CHI) 2024
- European Conference on Machine Learning and Principles and Practice of Knowledge Discovery in Databases (ECML-PKDD) 2023
- Machine Learning (Springer)
- NeurIPS 2022 Workshop on Graph Learning Frontiers (GLFrontiers) 2022
- NeurIPS 2021 Workshop on Human and Machine Decisions 2021
- Journal of Open Source Software 2021

REFEREES

Jon Kleinberg (kleinberg@cornell.edu)
Dept. of Computer and Information Science, Cornell University

Siddhartha Banerjee (sbanerjee@cornell.edu)
School of Operations Research and Information Engineering, Cornell University

Amin Rahimian (rahimian@pitt.edu)
Department of Industrial Engineering, University of Pittsburgh

Yuan Yuan (yuyuan@ucdavis.edu)
Graduate School of Management, UC Davis

Longqi Yang, Chin-Chia Hsu (longqi.yang@microsoft.com)
Office of Applied Research, Microsoft Research

Yong-Yeol Ahn (yyahn@iu.edu)
Dept. of Informatics, Computing, and Engineering, Indiana University

LAST UPDATED September 17, 2024