

## Marios Papachristou

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PERSONAL INFORMATION	E-mail Phone Website Nationality	mp2242@cornell.edu (607)-262-5495 <a href="https://github.com/papachristoumarios">papachristoumarios.github.io</a> 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	
EMPLOYMENT	<b>W.P. Carey School of Business, Arizona State University</b> Incoming Assistant Professor (tenure-track), Department of Information Systems	Fall 2025 (expected) –
	<b>Microsoft Research</b> Office of Applied Research, with Chin-Chia Hsu and Longqi Yang	Summer 2023
	<b>Twitter</b> User Modeling Research Group, with Rishab Goel, Frank Portman, Matt Miller	Summer 2022
EDUCATION	<b>Cornell University</b> Ph.D. in Computer Science, Minor: Applied Mathematics – Advisor: Jon Kleinberg	2020 – Expected 2025
	M.S. in Computer Science	2020 – 2022
	<b>National Technical University of Athens</b> Diploma in Electrical and Computer Engineering Major: Computer Science. – Advisor: Dimitris Fotakis – Top 2% of graduating class	2015 – 2020
SELECTED HONORS & AWARDS	– <b>LinkedIn Ph.D. Fellowship</b> One-year fully funded fellowship by LinkedIn. Acceptance rate 14%. – <b>Onassis Scholarship</b> Three-year fellowship for Greek Ph.D. students. Acceptance rate: 16%. – <b>A.G. Leventis Scholarship</b> Award for graduate students of Greek origin. Acceptance rate 12.5%. – <b>Chateaubriand Fellowship</b> Fellowship granted by the French Embassy in the US for studies in France (declined for personal reasons). Acceptance rate 33%. – <b>Cornell Fellowship</b> One-year fully funded fellowship by the CS department based on “exceptional preparation and promise”. – <b>IEEEExtreme 11.0 Programming Competition</b> Top 1% worldwide in IEEE’s algorithms competition.	2022 2023 2022 2022 2020 2017
PAPERS	<b>Selected Papers</b>	
<a href="#">Google Scholar Profile</a> $\alpha\beta$ = alphabetical order * = equal contribution	[S1] <b>Optimal Resource Allocation for Remediating Networked Contagions</b> <i>Marios Papachristou, Sid Banerjee, Jon Kleinberg</i> Major Revision (submitted R&R), <i>Management Science</i> , 2024 <a href="#">[preprint]</a>	

- [S2] **Group Decision-Making among Privacy-aware Agents**  
*Marios Papachristou*, Amin Rahimian  
*R&R at Operations Research*, 2024  
*Preliminary version presented at the Theory and Practice of Differential Privacy Workshop (TPDP)*  
[\[preprint\]](#) [\[talk\]](#)
- [S3] **Network Formation and Dynamics among Multi-LLMs**  
*Marios Papachristou*, Yuan Yuan  
*Working Paper*, 2024  
[\[preprint\]](#) [\[slides\]](#)
- [S4] **Structural Measures of Resilience for Supply Chains**  
*Marios Papachristou*, Amin Rahimian  
*Under review at Management Science*, 2024  
[\[preprint\]](#) [\[code\]](#) [\[slides\]](#)
- [S5] **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**  
 <sup>$\alpha\beta$</sup> 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  
*R&R 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*  
[\[paper\]](#) [\[poster\]](#)

**Patents**

[P1] **GLINKX: A Scalable Unified Framework for Homophilous and Heterophilous Graphs**  
*Marios Papachristou, Rishab Goel, Frank Portman, Matt Miller, Rong Jin*  
*Provisional patent application submitted, 2022*

**SOFTWARE**

**volesti** [github.com/GeomScale/volesti](https://github.com/GeomScale/volesti)  
 Open-source C++ statistical software for sampling and volume approximation from convex bodies.

**OTHER EXPERIENCE**

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

**Cashierless Payments Start-up** *2017 – 2018*  
 Part of National Bank of Greece’s start-up accelerator

**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**

<sup>†</sup>= 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** *October 2024*
  - INFORMS Annual Meeting<sup>†</sup>
  - 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**

- Journal of Artificial Intelligence Research (JAIR) 2024
- Naval Research Logistics 2024
- 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

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 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 December 25, 2024