

Marios Papachristou

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| AREAS | Algorithms, Information Networks, Machine Learning, Data Mining | |
| EDUCATION | Cornell University Ph.D. in Computer Science, Minor: <i>Applied Mathematics</i> – <i>Advisor</i> : Jon Kleinberg – <i>Relevant Coursework</i> : Analysis of Algorithms, Information Networks, Numerical Methods for Data Science, Design of Online Marketplaces, ML Theory M.S. in Computer Science | 2020 – exp. 2026 < |

*This paper extends our previous works in [WWW 2022](#) and [WWW 2023](#).
[\[slides\]](#)*

- [W2] **Marios Papachristou**, Longqi Yang, Chin-Chia Hsu, “Leveraging Large Language Models for Collective Decision-Making”. *Under review*. 2023.
[\[preprint\]](#)
- [W3] **Marios Papachristou**, Amin Rahimian. “Group Decision-Making among Privacy-aware Agents”. *Under review*. 2023.
Preliminary version accepted at the AAAI Workshop on Privacy-Preserving Artificial Intelligence. 2023
- [W4] **Marios Papachristou**, Amin Rahimian. “Differentially Private Distributed Estimation and Learning”. *Under review*. 2023.
[\[preprint\]](#) [\[code\]](#)
- [W5] **Marios Papachristou**, Amin Rahimian. “Production Networks Resilience: Cascading Failures, Power Laws and Optimal Interventions”. *Under review*.
Preliminary poster presented at the ACM Conference of Economics and Computation (EC). 2023.
[\[preprint\]](#) [\[code\]](#) [\[slides\]](#)
- [W6] **Marios Papachristou**, Rishab Goel, Frank Portman, Matt Miller, Rong Jin. “GLINKX: A Scalable Unified Framework for Homophilous and Heterophilous Graphs”. *Under Review*. 2023
Preliminary version presented at NeurIPS workshop on Graph Learning Frontiers (GLFrontiers), 2022.
[\[preprint\]](#) [\[poster\]](#) [\[workshop\]](#)
- [W7] **Marios Papachristou**, Dimitris Fotakis. “Stochastic Opinion Dynamics for User Interest Prediction in Online Social Networks”. *Preprint*, 2020.
[\[preprint\]](#)

RESEARCH
EXPERIENCE

Applied Research Intern – Microsoft *May 2023 – August 2023*
– Large Language Models (LLMs) for collective intelligence.
– *Office of Applied Research, with Chin-Chia Hsu and Longqi Yang*

Engineering Intern – Twitter *May 2022 – August 2022*
– Scalable Graph Machine Learning on graphs.
– *User Modeling Research, with Rishab Goel, Frank Portman, and Matthew Miller*

Graduate Researcher – Cornell University *Sept. 2020 – ongoing*
– Research in social and information networks, (allocation algorithms to mitigate contagion in financial and supply-chain networks, statistical graph and hyper-graph models)

Researcher – GeomScale Organization *May 2020 – March 2020*
– Part-time research on sampling from truncated log-concave densities, and convex optimization, working on the [volesti](#) open-source package.
– *Mentors: Apostolos Chalkis, Vissarion Fisikopoulos, Elias Tsigaridas*

Researcher – Athens University of Economics and Business *2018 – 2020*
– Software architecture recovery via call graphs, source code embeddings, and clustering methods.
– *Mentor: Diomidis Spinellis*

Google Summer of Code 2020 (GeomScale) *June 2020 – August 2020*
– *Project: Sampling from high-dimensional truncated log-concave densities.*
[\[code\]](#) [\[talk1\]](#) [\[talk2\]](#)

Google Summer of Code 2018 (GFOSS-OTA) *April 2018–September 2018*
 – *Project: 3gm. Automated codification of Greek Legislation.*
[\[code\]](#) [\[data\]](#) [\[talk\]](#)

Researcher – P2P Lab

2013 – 2014

**HONORS &
AWARDS**

- Onassis Scholarship *2023*
- LinkedIn Ph.D. Fellowship (14.8% acceptance rate) *2022*
- Gerondelis Scholarship *2022*
- A.G. Leventis Scholarship (12.5% acceptance rate) *2022*
- Chateaubriand Fellowship (*declined*) *2022*
- Cornell Fellowship *2020*
- Thomaidion Award *2019*
- ESEC/FSE 2019 ACM Student Research Competition Finalist *2019*
- 4th (out of 93) in International Space Engineering Competition (CanSat) *2019*
- 2nd Award at the “*be finnovative 2.0 accelerator*” *2018*
- 1st Award at “*Crowdhackathon Fintech #2*” *2017*
- Top %1 worldwide in IEEEExtreme 11.0 Programming Competition *2017*
- Touramanoglu Scholarship *2015*
- “The Great Moment of Education” Scholarship *2015*

**TEACHING
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*

**TALKS &
PRESENTATIONS**
[†]= scheduled
^{*}= presented by
 co-author

- ***Information aggregation and distributed learning in privacy-critical environments***
 - Rutgers University, Seminar* *November 2023*
- ***Leveraging Large Language Models for Collective Decision-Making***
 - Microsoft Research, Invited Applied Research Talks *August 2023*
- ***Production Networks Resilience: Cascading Failures, Power Laws, and Optimal Interventions***
 - 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***
 - *Invited Talk at* 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*

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| | <ul style="list-style-type: none"> • <i>Allocating Stimulus Checks in Times of Crisis</i> <ul style="list-style-type: none"> – ACM Web Conference <i>April 2022</i> – ACM Conference on Equity and Access in Algorithms, Mechanisms, and Optimization <i>October 2021</i> • <i>Sampling from Truncated High Dimensional Logconcave Densities</i> <ul style="list-style-type: none"> – PyData Global <i>December 2020</i> • <i>Software Clusterings with Vector Semantics and the Call Graph</i> <ul style="list-style-type: none"> – ACM Joint Meeting on European Software Engineering Conference and Symposium on the Foundations of Software Engineering <i>August 2019</i> |
| REVIEWING | <ul style="list-style-type: none"> • <i>Program Committee</i> <ul style="list-style-type: none"> – ACM Conference on Fairness Accountability and Transparency (FAccT) <i>2022</i> – ACM Conference on Knowledge Discovery and Data Mining (KDD) <i>2023</i> • <i>Reviewing</i> <ul style="list-style-type: none"> – ACM Web Conference (WWW) <i>2024</i> – Innovations in Theoretical Computer Science (ITCS) <i>2024</i> – ACM Conference on Human Factors in Computing (CHI) <i>2024</i> – European Conference on Machine Learning and Principles and Practice of Knowledge Discovery in Databases (ECML-PKDD) <i>2023</i> – Machine Learning (Springer) – NeurIPS 2022 Workshop on Graph Learning Frontiers (GLFrontiers) <i>2022</i> – NeurIPS 2021 Workshop on Human and Machine Decisions <i>2021–</i> – Journal of Open Source Software <i>2021–</i> |
| MENTORSHIP & VOLUNTEERING | <ul style="list-style-type: none"> • Student-applicant Support Program at Cornell CIS <i>2022</i> • Google Summer of Code <i>2019–2022</i> • Volunteer lessons for the National Olympiad of Informatics (PDP) and other programming competitions <i>2019</i> |
| LAST UPDATED | December 30, 2023 |