
MARIOS A. PAPACHRISTOU (Last Updated: January 14, 2022)

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INTERESTS	Data Science (information networks, statistical methods, fairness in networks)	
EDUCATION	Cornell University 2020 – exp. 2026 Ph.D. in Computer Science (<i>GPA: 4.0</i>), Minor: <i>Applied Math</i> <ul style="list-style-type: none">– <i>Advisor</i>: Jon Kleinberg, <i>Committee</i>: Jon Kleinberg, Emma Pierson, Sid Banerjee– <i>Coursework</i>: Analysis of Algorithms, Optimal Stopping, Information Networks, Numerical Methods for Data Science, Design of Online Marketplaces National Technical University of Athens 2015–2020 Diploma (5-year joint degree, 300 ECTS) Electrical & Computer Engineering (ECE) <ul style="list-style-type: none">– <i>GPA</i>: 3.8/4.0 (top 1%)– <i>Major</i>: Computer Science (<i>Major GPA</i>: 3.8/4.0)– <i>Thesis</i>: “Stochastic Opinion Dynamics for Interest Prediction in Online Social Networks”. <i>Advisor</i>: Dimitris Fotakis. <i>Grade</i>: 4.0/4.0	
PUBLICATIONS	<ol style="list-style-type: none">1. Papachristou, Marios, and Kleinberg, Jon. “Allocating Stimulus Checks in Times of Crisis”. 2021, <i>WWW ’22 (To appear) & EAAMO ’21 (Poster)</i>. [preprint] [code]2. Papachristou, Marios “Sublinear Domination and Core-periphery Networks”. 2021, <i>Scientific Reports (Nature)</i>. [preprint] [code] [paper]3. ^{$\alpha\beta$}Chalkis, Apostolos, Fisikopoulos Vissarion, Papachristou, Marios, and Tsigaridas, Elias. “Truncated Log-concave Sampling with Reflective Hamiltonian Monte Carlo”. 2021 [preprint] [code]4. Papachristou, Marios, and Fotakis, Dimitris. “Stochastic Opinion Dynamics for User Interest Prediction in Online Social Networks”. 2020, <i>Submitted</i>. [preprint]5. Papachristou, Marios. “Software clusterings with vector semantics and the call graph”. ESEC/FSE 2019. [paper] [code] [data]6. 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, [paper] $\alpha\beta$ = alphabetical order, * = equal contribution	
RESEARCH EXPERIENCE	Cornell University (Graduate Research Assistant) May 2021 – <ul style="list-style-type: none">– Thesis-related research Business Analytics Lab (Undergraduate Researcher) 2018 – 2020 <ul style="list-style-type: none">– Conduct research on Machine Learning on Software Engineering: Source Code Embeddings, Software Clusterings, Layering Violations– Research funded by the CROSSMINER project, supported by <i>Horizon 2020</i> grant– Research Advisor: Prof. Diomidis Spinellis Hellenic Center for Marine Research June 2014 – August 2014 P2P Lab (Remote Research Associate) 2013–2014	
PROFESSIONAL EXPERIENCE	Google Summer of Code 2020 (GeomScale) June 2020– <ul style="list-style-type: none">– <i>Project</i>: Sampling from high-dimensional log-concave densities	

- Develop software for the efficient sampling from high-dimensional log-concave densities using first-order oracles in (un)-truncated settings [\[code\]](#)
- Presented at [PyData Global 2020](#) and the [Workshop on Geometry and ML](#) at SoCG 2021.
- The software includes ODE and SDE solver and samplers for convex body domains (convex polytopes).

Google Summer of Code 2018 (GFOSS-OTA)

April 2018–September 2018

- Developed a fully functional project for text mining, cross-linking and automated codification of Greek Legislation using Natural Language Processing & Data Mining Methods and Practices. [\[code\]](#) [\[data\]](#) [\[talk\]](#)
 - Cross-linking into Dynamic Graphs, Automated Codification
 - Topic Modeling, Embeddings, Ranking (PageRank)
 - Greek Legislative Texts Internet Archive Collection

Ratle (Co-founder)

October 2017–October 2018

- Cashierless shopping system start-up.

TEACHING ASSISTANTSHIP EXPERIENCE

Undergraduate Teaching Assistant

- Discrete Mathematics (4th Semester) *Spring 2017*
- Programming Techniques (2nd Semester) *Spring 2016*
- Introduction to Computer Programming (1st Semester) *Fall 2016, Fall 2017*

TECHNICAL SKILLS

Programming Languages

Python, C, C++, R, SQL

Machine Learning Frameworks

PyTorch, Sklearn

Data Analysis and Visualization

matplotlib, MATLAB, pandas, Bash

Scientific Programming

NumPy, SciPy, NetworkX, MATLAB

Databases

MySQL, MongoDB

HONORS & AWARDS

- Cornell New Student Fellowship (first-year). Cornell University.
- Thomaidion Award. Publication during undergraduate studies (2019). NTUA.
- Programming Competition *IEEEExtreme 12.0*. Ranked 48th out of 4,000 Worldwide (top 1%), 1st in Greece, 13th in Europe (PComplete Team)
- 4th (out of 93) Place in *International Space Engineering Competition at Texas* (CanSat) organized by NASA Goddard and the American Astronautical Society
- 1st Award at “*Crowdhackathon Fintech #2*” for developing a cashierless system for retail shops to eliminate queues by National Bank of Greece
- 2nd Award at the “*be finnovative 2.0 accelerator*” for developing a cashierless system for retail shops to eliminate queues by National Bank of Greece
- ESEC/FSE 2019 ACM Student Research Competition Finalist
- 2nd Place at the “*ECESCON9*” Hackathon
- “*Touramanoglu*” Scholarship by Municipality of Helioupolis & Hymettus
- “*The Great Moment of Education*” Scholarship by Eurobank EFG

VOLUNTEERING

- Teaching algorithms courses in National Competition for Informatics Camp
- Google Summer of Code Mentor (2019, w/ GFOSS-OTA, 2021 w/GeomScale)
- Member of TEDx NTUA 2018 Organizing Committee, IT Team
- Contributor to open-source projects to the [GeomScale](#) organization.
- *Reviewer*. [JOSS](#), [WHMD@NeurIPS ‘21](#), [FAccT ‘22](#)

REFERENCES

[Jon Kleinberg](#) (PhD Advisor), [Dimitris Fotakis](#) (U/G Advisor), [Diomidis Spinellis](#) (Research Advisor), [Vasilis Kostakis](#) (Harvard BKC)