Marios A. Papachristou (Last Updated: October 5, 2021)

CONTACT INFORMATION		
	E-mail	papachristoumarios@cs.cornell.edu
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	Google Scholar	[profile]

INTERESTS Data Science (information networks, statistical methods, fairness in networks)

EDUCATION

Cornell University   *2020 – exp. 2026*
Ph.D. in Computer Science. Concentration on Data Science, (*GPA: 4.0*)
  – *Advisor:* Prof. Jon Kleinberg
  – *Committee:* Jon Kleinberg, Emma Pierson, Sid Banerjee
  – *Coursework:* Analysis of Algorithms, Optimal Stopping, Information Networks, Numerical Methods for Data Science

National Technical University of Athens   *2015–2020*
Diploma (5-year joint degree, 300 ECTS) Electrical & Computer Engineering (ECE)
  – *GPA:* 3.8/4.0 (top 1%)
  – *Major:* Computer Science (*Major GPA:* 3.8/4.0)
  – *Thesis:* "Stochastic Opinion Dynamics for Interest Prediction in Online Social Networks". Advisor: Dimitris Fotakis. Grade: 4.0/4.0

PUBLICATIONS

1. **Papachristou, Marios**, and Kleinberg, Jon. "Allocating Stimulus Checks in Times of Crisis". 2021, *EAAMO '21 (Poster)*. [preprint] [code]
2. **Papachristou, Marios** "Sublinear Domination and Core–periphery Networks". 2021, *Scientific Reports (Nature)*. [preprint] [code] [paper]
3. ♭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, *Submitted.* [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]

♭= alphabetical order.

RESEARCH EXPERIENCE

Cornell Universtiy (Graduate Research Assistant)   *May 2021 –*
  – Thesis-related research

Business Analytics Lab (Undergraduate Researcher)   *2018 – 2020*
  – Conduct research on Machine Learning on Software Engineering: Source Code Embeddings, Software Clusterings, Layering Violations
  – Research funded by the CROSSMINER project, supported by *Horizon 2020* 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–*

  – *Project: 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 Languaging 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.
- Bluetooth Signal Denoising with Kalman Filters, Product tracking inside stores, Enterprise application for Business Analytics
- Tested at real stores

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.
- Programming Competition *IEEEXtreme 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 Americal 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.* Journal of Open Source Software

REFERENCES

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