

MARIOS A. PAPACHRISTOU

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RESEARCH INTERESTS	Data Science, Network Science, Machine Learning, Recommender Systems, Computational Law, Software Engineering, Algorithms, Optimization
EDUCATION	<div><div>Cornell University<i>2020 – exp. 2026</i></div><div>Ph.D. in Computer Science. Concentration on Data Science<ul style="list-style-type: none">– Advisor: Prof. Jon Kleinberg</div><div>National Technical University of Athens<i>2015–2020</i></div><div>Diploma (5-year joint degree, 300 ECTS) Electrical & Computer Engineering (ECE)<ul style="list-style-type: none">– 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</div></div>
PUBLICATIONS [GOOGLESCHOLAR]	<ol style="list-style-type: none">1. Papachristou, Marios. “Software clusterings with vector semantics and the call graph.” ESEC/FSE 2019. DOI: 10.1145/3338906.3342483. [link]2. Kostakis, Vasilis, and Papachristou, Marios. “Commons-based peer production and digital fabrication: The case of a RepRap-based, Lego-built 3D printing-milling machine.” T&I, 2014. DOI: 10.1016/j.tele.2013.09.006. [link]
RESEARCH EXPERIENCE	<div><div>Business Analytics Lab (Undergraduate Researcher)<i>2018 – 2020</i></div><div><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</div><div>Hellenic Center for Marine Research<i>June 2014 – August 2014</i></div><div>P2P Lab (Remote Research Associate)<i>2013–2014</i></div></div>
PROFESSIONAL EXPERIENCE	<div><div>Google Summer of Code 2020 (GeomScale)<i>June 2020–</i></div><div><ul style="list-style-type: none">– 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 [github] [post] [talk]– The software includes ODE and SDE solver and samplers for convex body domains (convex polytopes).</div><div>Google Summer of Code 2018 (GFOSS-OTA)<i>April 2018–September 2018</i></div><div><ul style="list-style-type: none">– Developed a fully functional project for text mining, cross-linking and automated codification of Greek Legislation using Natural Language Processing Methods and Practices. Project is hosted at 3gm.ellak.gr [repository]<ul style="list-style-type: none">– Cross-linking into Dynamic Graphs– Automated Codification– Custom Version Control System– Topic Modeling– Embeddings– Ranking (PageRank)– Language Modeling and Legal Text Generation with DNNs– Greek Legislative Texts Internet Archive Collection [link]– Project is in active development and receives funding– Supervise graduate student for Google Summer of Code 2019</div></div>

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++, Java, JavaScript/TypeScript, Bash, OCaml, PHP, R, SQL

Machine Learning Frameworks PyTorch, Pyro, Tensorflow Keras, Sklearn, spaCy

Data Analysis and Visualization matplotlib, MATLAB, pandas, Bash

Scientific Programming SAGE, Octave, MATLAB, Scilab, NumPy, SciPy, OpenCV, NetworkX

Databases MySQL, MongoDB, PostgreSQL, Firebase

Version Control Git, Subversion

**HONORS &
AWARDS**

- Cornell New Student Fellowship (first-year).Cornell University.
- Programming Competition *IEEEExtreme 12.0*. Ranked 48th out of 4,000 World-wide (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
- Member of TEDx NTUA 2018 Organizing Committee, IT Team
- Contributor to open-source projects
- Member of Greek Free and Open-Source Software Organization GFOSS-OTA
- Voluntary Blood Donor

**REFERENCES
AVAILABLE
UPON REQUEST**

Jon Kleinberg (Prof. at Cornell, PhD Advisor, kleinberg@cornell.edu)

Dimitris Fotakis (Assoc. Prof. at NTUA, U/G Advisor, fotakis@cs.ntua.gr)

Diomidis Spinellis (Prof. at AUEB, ex: Google, ex: GSIS SG, dds@aueb.gr)

Vasilis Kostakis (Harvard BKC, kostakis@law.harvard.edu)