Marios A. Papachristou

GitHub: papachristoumarios   EMAIL: papachristoumarios@gmail.com

RESEARCH INTERESTS	Data Science, Machine Learning, Recommender Systems, Computational Law, Software Engineering, Algorithms, Optimization

EDUCATION

Cornell University *to start in Sept. 2020 –*
Ph.D. in Computer Science. Concentration on Data Science
  – Advisor: Prof. Jon Kleinberg

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

1st General Lyceum of Hymettus *2012–2015*
Apolytirion, Valedictorian, GPA: 19.8/20.0, top 2% in National Exams (18,971/20,000)

PUBLICATIONS
[GoogleScholar]

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]

WORKING PAPERS

1. "Stochastic Opinion Dynamics for Interest Prediction in Online Social Networks". *joint work with D. Fotakis. Submitted to NeurIPS 2020.*

RESEARCH EXPERIENCE

Business Analytics Lab (Undergraduate Researcher) *August 2018 –*
  – Conduct research on Machine Learning on Software Engineering
    – Source Code Embeddings
    – Software Clustering
    – 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*
  – Develop a system for marine species identification and morphometric analysis using features and ORB, SIFT and SURF descriptors in OpenCV [repository]

P2P Lab (Remote Research Associate) *2013–2014*
  – Publish self-made Lego 3D Printing-Milling machine at age 16 with Prof. Vasilis Kostakis [repository]

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. Project can be found at [github]

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 Methods and Practices. Project is hosted at 3gm.ellak.gr [repository]

- 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

Ratle (Co-founder)   *October 2017–October 2018*

- Bluetooth Signal Denoising with Kalman Filters
- Product tracking inside stores
- Enterprise application for Business Analytics
- Tested at real stores [video]

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*

LANGUAGES

Greek (Native), English (C2), German (B1)

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) based on academic preparation and promise. 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

MEMBERSHIPS

IEEE Member, ACM Member

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	Dimitris Fotakis (Assoc. Professor at NTUA, Thesis Advisor, fotakis@cs.ntua.gr)
AVAILABLE	Diomidis Spinellis (Professor at AUEB, ex: Google, ex: GSIS SG, dds@aueb.gr)
UPON REQUEST	Nectarios Koziris (Prof. at NTUA, nkoziris@cslab.ece.ntua.gr)
	Vasilis Kostakis (Prof. at TalTech, Harvard BKC, P2P Lab, kostakis@law.harvard.edu)

HOBBIES	Cycling, Bike Restoration, Competitive Programming, Basketball, Reading, Drama

LAST UPDATED	June 30, 2020