

Georgios Fragkos

RESEARCH & TEACHING ASSISTANT · COMPUTER NETWORKS & COMMUNICATION SYSTEMS

The University of New Mexico, Dept. of Electrical and Computer Engineering, Albuquerque, NM 87131, USA

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Education

Ph.D.:

Albuquerque, NM, USA

THE UNIVERSITY OF NEW MEXICO

Jan. 2019 - Present, Grad. Year -

Jan. 2023

- **Laboratory:** Performance and Resource Optimization in Networks Lab (**PROTON LAB**)
- **Major Field Program:** Computer Engineering
- **Minor Field Program:** Electrical Engineering
- **Advisor:** Dr. Eirini Eleni Tsiropoulou (**Personal Website**)
- **Current GPA:** 4.33/4.00 (**With Honors**)

Diploma in Electrical & Computer Engineering (5-year joint degree)

Athens, Greece

NATIONAL TECHNICAL UNIVERSITY OF ATHENS

Oct. 2012 - Oct. 2018

- **Major Field:** Computer Science
- **Minor Field:** Computer Systems and Networks
- **Diploma Thesis:** "Development of distributed consensus methods using Blockchain technology integrated with Neo4j Graph Database"
- **Advisor:** Professor Theodora Varvarigou (**Personal Website**)
- **Co-Advisor:** Dr. Antonios Litke (**Google Scholar Site**)
- **GPA:** 7.82/10
- **Passed Nationwide University Entrance Examination with Score: 18.980/20.000 (estimate: top 1% nationwide)**

Research Experience

The University of New Mexico

Albuquerque, NM, USA

RESEARCH ASSISTANT, PERFORMANCE AND RESOURCE OPTIMIZATION LABORATORY (**PROTON LAB**)

Jan. 2019 - Present

- Studied Reinforcement Learning, Game Theory, Resource Orchestration in Interdependent Systems
- Studied Control of Resources for Public Safety Networks

TEACHING ASSISTANT, ECE DEPT.

1. ECE: 595 Network Economics (Graduate Course - Spring 2019, 2020)
2. ECE: 440 / CS 485 Introduction to Computer Networks (Undergraduate Course - Spring 2019, 2020)
3. ECE: 341 Communication Systems (Undergraduate Course - Fall 2019)

The National Technical University of Athens

Athens, Greece

RESEARCH ASSISTANT, INSTITUTE OF COMMUNICATIONS AND COMPUTER SYSTEMS (ICCS)

May 2017 - Dec. 2018

- Contributed to the EU Funded Horizon 2020 BLOOMEN Project - [**BLOOMEN Link**]
- Collaborating Institutes: Deutsche Welle, Wordline ATOS, ANT1 Cyprus, Kendraio, BMAT
- Studied and Developed distributed Blockchain-based applications for preserving media copyrights and systems' security
- Engineering Areas: Distributed Systems, Blockchain Technology, Graph Databases, Network Architecture and Security, Software Development, Python, Javascript, C, Solidity

European Organization for Nuclear Research (CERN)

Switzerland, Geneva

RESEARCH ASSISTANT, ATLAS EXPERIMENT

2016 - 2017

- Full Summer Internship as an undergraduate student
- Provided by Brookhaven National Laboratory, New York, USA
- Contributed to the New Small Wheel Electronics Upgrade Project
- Developed tools for acquiring, analysing and presenting the data, coming from the ATLAS detector through the MMFE8 and the VMMs electronics
- Engineering Areas: Network Architecture and Design, Multithreaded Programming, Python, Qt

Skills

Programming	Python (Expert), Matlab (Expert), Java, C/C++, JavaScript, Qt, Solidity, HTML/XML, Prolog, LaTeX
Operating Systems	Linux, macOS, Windows
Software/Tools	Eclipse IDE, PyCharm IDE, NodeJS, Vue.js framework, Python Flask Microservice, Protege, Microsoft Visual Studio, Simulink, Mathematica, PSpice
Languages	Greek (Native), English(Full Proficient)

Research Interests

- Public Safety Networks
- Reinforcement Learning & Game Theory
- Optimization
- Distributed Decision Making
- Blockchain

Publications

Journals

1. Fragkos, G.; Lebien, S.; Tsiropoulou, E.E. "Incentivization of Mobile Edge Computing servers using Bayesian Learning Automata," in IEEE Transactions on Mobile Computing (under review)
2. Apostolopoulos, P.A.; Fragkos, G.; Tsiropoulou, E.E.; Papavassiliou S. "Data Offloading in UAV-assisted Multi-access Edge Computing Systems under Resource Uncertainty," in IEEE Transactions of Mobile Computing (under review)
3. Fragkos, G.; Minwalla, C.; Plusquellic, J.; Tsiropoulou, E.E. "Reinforcement Learning Toward Decision-Making for Multiple Trusted-Third-Parties in PUF-Cash," in ACM Journal on Emerging Technologies in Computing Systems (to be submitted)
4. Fragkos, G.; Apostolopoulos, P.A.; Tsiropoulou, E.E. "ESCAPE: Evacuation Strategy through Clustering and Autonomous Operation in Public Safety Systems," in Future Internet 2019, 11, 20.

Conferences

1. Patrizi, N.; Fragkos, G.; Tsiropoulou, E.E.; Papavassiliou, S. "Contract-Theoretic Resource Control in Wireless Powered Communication Public Safety Systems," in IEEE Globecom 2020 (under review)
2. Patrizi, N.; Fragkos, G.; Ortiz, K.; Oishi, M.; Tsiropoulou, E.E. "A UAV-enabled Dynamic Multi-Target Tracking and Sensing Framework," in IEEE Globecom 2020 (under review)
3. Fragkos, G.; Tsiropoulou, E.E.; Papavassiliou S. "Artificial Intelligence Enabled Distributed Edge Computing for Internet of Things Applications," IEEE DCOSS 2020 (to appear)
4. Rael, K.; Fragkos, G.; Plusquellic, J.; Tsiropoulou, E.E. "Artificial Intelligence Enabled Distributed Edge Computing for Internet of Things Applications," IEEE DCOSS 2020 (to appear)
5. Chai, Y.; Fragkos, G.; Tsiropoulou, E.E.; Veneris A. "A Truth-Inducing Sybil Resistant Decentralized Blockchain Oracle," in IEEE BRAINS 2020 (to appear)
6. Diamanti, M.; Fragkos, G.; Tsiropoulou, E.E.; Papavassiliou S. "Resource Orchestration in Interference-Limited Small Cell Networks: A Contract-Theoretic Approach," in International Conference on NETWORK Games, Control and Optimisation (Netgcoop), 2020. (to appear)
7. Fragkos, G.; Minwalla, C.; Plusquellic, J.; Tsiropoulou, E.E. "Reinforcement Learning Toward Decision-Making for Multiple Trusted-Third-Parties in PUF-Cash," in IEEE WF-IoT 2020 (to appear)
8. Fragkos, G.; Patrizi, N.; Tsiropoulou, E.E.; Papavassiliou S. "Socio-aware Public Safety Framework Design: A Contract Theory based Approach," in IEEE ICC 2020 (to appear)
9. Fragkos, G.; Kemp, N.; Tsiropoulou, E.E.; Papavassiliou S. "Artificial Intelligence Empowered UAVs Data Offloading in Mobile Edge Computing," in IEEE ICC 2020 (to appear)
10. Fragkos, G.; Tsiropoulou, E.E.; Papavassiliou S. "Disaster Management and Information Transmission Decision-making in Public Safety Systems," IEEE GLOBECOM 2019
11. Palaiokrassas G., Litke A., Fragkos G., Papaefthymiou V., Varvarigou T. "Deploying Blockchains for a New Paradigm of Media Experience," In: Coppola M., Carlini E., D'Agostino D., Altmann J., Bañares J. (eds) Economics of Grids, Clouds, Systems, and Services. GECON 2018. Lecture Notes in Computer Science, vol 11113. Springer, Cham
12. Fragkos G., Kapsoulis N., Litke A., Palaiokrassas G., Varvarigou T. "Anonymized Personalization for Distributed Applications over Blockchain," in Decentralized Conference 2018, Athens, Greece

Honors & Awards

2020	IEEE Outstanding Graduate Engineering Student Award IEEE Albuquerque Section awarded me with the IEEE Outstanding Graduate Engineering Student Award for outstanding academic performance in the field of Computing and Communications	<i>New Mexico, USA</i>
2020	SoE ECE UNM Outstanding Graduate Award The faculty of Electrical and Computer Engineering selected me for the Outstanding Graduate Award for the 2019-2020 academic year	<i>New Mexico, USA</i>
2020	UNM Teaching Assistant Award Nomination University of New Mexico (UNM) nominated me for the Teaching Assistant Award in the whole University of New Mexico	<i>New Mexico, USA</i>
2019	IEEE HKN Graduate Member The president of the IEEE HKN student branch at UNM made an honorary invitation to become an active member of the society	<i>New Mexico, USA</i>
2019	UNM Graduate Excellence Fellowship Offered the UNM Graduate Excellence Fellowship to enroll in the Master of Engineering Program	<i>New Mexico, USA</i>
2016	1st Place Award : Hackathon - The IoT Challenge @NTUA Awarded for best idea and implementation: Smart Home Sound Application for people with hearing impairment - [Project Link]	<i>Athens, Greece</i>
2006-2012	Awards of Excellence in High School 6 in total, from the Ministry of Education	<i>Athens, Greece</i>