

Mohammad Shojafar – Résumé

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Personal Profile

Mohammad Shojafar (S'13-M'17-SM'19) is Associate Professor (Senior Lecturer) and Intel Innovator working in the 5G Innovation Centre (5GIC) at the University of Surrey, United Kingdom. Before joining to 5GIC, he was a Marie Curie Fellow working on MSCA Global Fellowship "PRISENODE" in SPRITZ Security and Privacy Research group at the University of Padua, Italy. Also, he was a Senior Researcher at the Ryerson University, Toronto (Canada) for 10 months working on network security project at the Telus Communications (TELUS) in 2019. He was a Senior Researcher in SPRITZ Security and Privacy Research group at the University of Padua, Italy in 2018. Also, he was CNIT Senior Researcher at the University of Rome Tor Vergata contributed on European H2020 "SUPERFLUIDITY" project. Mohammad was contributed to some Italian projects named "SAMMClouds", "V-FoG", "PRIN15" projects aim to address some of the open issues related to the Software as a Service (SaaS) and Infrastructure as a Service (IaaS) systems in Cloud and Fog computing. He received the Ph.D. degree from Sapienza University of Rome, Italy, in 2016 with an "Excellent" degree. His current research focuses on network security and privacy (5G network), distributed computing/systems, cloud data center, and fog computing. He published over 100 refereed articles in prestigious IEEE venues. He was a programmer and software analyzer at National Iranian Oil Company (NIOC) and Tidewater Ltd in Iran from 2008-2013, respectively. He is Senior Member of IEEE.

Education

- 2012-2016** PhD Hons in Information Communication Telecommunications (ICT)
Sapienza University of Rome, Italy
First Class (Excellent) - 4/4 *Thesis: Saving Energy in QoS Networked Data Centers*
- 2007-2010** Msc Hons in Computer Science (Software Eng.)
Qazvin Azad University, Qazvin, Iran
First Class - GPA: 3.54/4
- 2001-2006** BSc Hons in Computer Engineering - (Software Eng.)
Iran University Science and Technology, Iran
First Class - Excellent-4/4

Interests

- System Security (i.e., CAPEX/OPEX, reliability, trustworthy, failure rate, maintenance cost)
- Green Networking Security (i.e., Security issues in Cloud Data Center, Fog Networks, Grid Systems)
- 5G Cyber Security (i.e., Security issues in SFC/NFV in SDN)
- Security and Lightweight Protocols in Internet of Things (IoT)

Employment History

Research Experiences (Research Engineerings)

- Nov. 2019 -** 5G Innovation Centre (5GIC), University of Surrey, Guildford, Surrey, UK
Present Senior Lecturer in Network Security

- Activities:** Design Security and Privacy solutions in 5G network considering SDN/NFVs and Cloud System targeting resource provision/allocation using reinforcement algorithms such as ML, mathematical solutions, and design lightweight cryptographic secure algorithms to feed the industry issues dealing with network and IoT issues using Python/C++ use Mininet and ONOS/ODL SDN controller tools
- Jan. 2019** - Department of Computer Science, Ryerson University, Toronto, ON, Canada
Nov. 2019 *Senior Research Engineer*
Activities: Tackling Security and Privacy problems in SDN/NFVs targeting resource provision/allocation using reinforcement algorithms such as ML, mathematical solutions, and meta heuristics methods, write industry grants for network and IoT security using Python/C++ use Mininet and ONOS/ODL SDN controller tools
- Jan. 2018** - SPRITZ Security and Privacy Research Group , University of Padua, Italy
Jan. 2019 *Senior Research Engineer*
Activities: Tackling management of PhD/Msc Students and manage network security proposal in SDN/NFVs targeting resource provision and resource allocation using reinforcement algorithms such as ML, mathematical solutions, and meta heuristics methods, malware/ransomware detection systems in Large datasets using Python/Bash script on Linux/Mac
- Dec. 2016** - Center of National Consortium Inter-universities in Telecommunication (CNIT), Rome, Italy
Jan. 2018 *Senior Research Engineer*
Activities: Technical member in SUPERFLUIDITY project (Horizon 2020 European project), tackling management of 5G networks and manage heterogeneous traffic using reinforcement algorithms such as ML, mathematical solutions, and meta heuristics methods using Python/bash script/MATLAB/AMPLE.
- Dec. 2015** - Department of "Enzo Ferrari", University of Modena and Reggio Emilia (UniMod), Modena
Dec. 2016 *Research Associate (PostDoc)*
Activities: Technical member in SAMMClouds project (Italian project), implement some analytical solutions techniques some novel solutions using AMPL (Knitro, MOSEK and IBM CPLEX) optimizers, python, bash script, testing, deployment, Docker and Oracle Virtual box.
- Nov. 2012** - Department in San Pientro in Vincoli, Sapienza University of Rome, Italy
Dec. 2015 *Research Assistant (PhD scholar)*
Activities: CVX/MOSEK packages over MATLAB Platform knowledge and hands-on experiences, System modelling via computational intelligence methods, particularly mathematical optimization (KKT, Regression, GP).

Job Experiences (Managing/Programming)

- 2012** Exploration Directorate section, National Iranian Oil Company (NIOC)
Computer Engineer/analyzer
Activities: Analyzer of Software (PISDB and FFSDDB projects), Analyze, develop and implement testing procedures, programming (C++, java) and documentation.
- 2008** Rahyab Rayaneh Gostar Section, Tidewater ltd. Co.
Software analyzer
Activities: Technical member in GCOMS, TCTS projects as a software tester and programmer. I analytically and empirically investigated the impact of concurrency on software testers such as IBM Rational Robot and devising a model for concurrency problem (e.g., C#/Bash prog.), apply analytical and problem solving skills to verify product through testing analytical models.

Grant, honors, awards, fellowships

- 2020-2022** **PI:** 250,000 €, “Security and Privacy in Network Security” Project, **Huawei Technologies**, UK
- 2020-2021** **Co-PI:** 20,000 €, “Energy/Delay-aware methods in IoE/Industry 4.0” Project, **UK-Ecuador**, UK
- 2020-2022** **PI:** 275,209 €, “PRISENODE” Project, **Marie Skłodowska-Curie Individual Fellowships**, EU
- 2018** **PI:** 5,000 €, “SDN/NFV Security in CDC” Project, Department of Mathematics, University of Padua, Italy
- 2018** **Award:** 53,000 €, Department of Mathematics, University of Padua, Italy
- 2016** **Award:** 19,500 €, Department of “Enzo Ferrari”, University of Modena and Reggio Emilia, Modena, Italy
- 2015** **Talented Grant:** 650 €, Accommodation Flagship Conference, (ICC), Sapienza University of Rome, Italy
- 2012-2015** **Fellowship Award:** 58,500 €, High Impact Research, Ministry of Higher Education, Rome, Italy
- 2008-2012** **Faculty Member**, Computer Engineering Department, Somesara Islamic Azad University, Rasht, Iran

Memberships/Certificates

- **Member:** Intel Innovator, IEEE Senior Member
- **Senior Member:** SPRITZ Group
- **Member:** IEEE Systems Man and Cybernetics Society Technical Committee on Soft Computing
- **Certify:** Certified Ethical Hacker (CEH), Java J2SE/J2EE

Scientific Magazine Editors

- **IEEE Publisher:** IEEE Transactions on Consumer Electronics
- **IEEE Publisher:** IET Communications
- **Springer Publisher:** Cluster Computing

Software Engineering/Technical Skills

- **Scientific programming tools:** Matlab, AMPL, CPLEX, Mininet, ifogSim/icloudSim
- **Programming Languages:** Python, Bash Script, Java, C++
- **Operating Systems:** Linux, Apple OS X, Microsoft Windows, TinyOS

Miscellaneous/News

- **Research Publications:** Research Papers
- **Youtube Presentations:** My stream talks on the presentations
- **Social Networks:** LinkedIn Twitter

Teaching/Mentoring Experiences

Jan. 2018 - Department of Computer Science, University of Padua (UNIPD), Padua

Dec. 2018 *Teaching Assistant*

Activities: Teaching course “Computer and Network Security” (Msc Level)- Design Security Assignment and theoretically and practically resolve in Laboratory

Nov. 2012- Italian Universities: Sapienza, UNIPD, UniMod, and CNIT

Dec. 2017 **Activities:** *Mentoring in research and teaching related short courses 6 MSc and 3 PhD students*

Sep. 2009 - Department of Computer Science, Islamic Azad University of Rasht, Somesara

June 2012 *CS Lecturer*

Activities: Teaching courses “Algorithm Design”, “Computer Networks”, “Storage and Retrieval”, “Software Engineering”(Bsc Level)- Design Module and follow the course materials and Support Q&A and Lab. assignments

Referees

- **Prof. Rahim Tafazolli**, Head of the Institute for Communication Systems (ICS), 5GIC, University of Surrey, United Kingdom.
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- **Professor Mauro Conti**, Head of SPRITZ Security and Privacy Research Group, University of Padua, Padua, Italy.
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- **Professor Mukesh Singhal**, Head of Computer Science and Electrical Engineering Department, University of California, Merced, CA 95343, US.
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