

Zahra Pooranian

Contact Information	<i>University of Surrey</i> <i>James Clerk Maxwell Building,</i> <i>Guildford, Surrey, GU2 7XH, Great Britain</i>	<i>zahra.pooranian@gmail.com</i> <i>z.pooranian@surrey.ac.uk</i>
Website	<i>https://zahrapooranian.github.io/Zahra/index.htm</i>	
Research Area	Cloud Storage, Data Privacy, Cryptography, Fog Computing, Adversarial Machine Learning, Deep Learning, Artificial Intelligence, Optimization	
Professional Experiences	<i>Postdoctoral Research Fellow</i> University of Surrey, Guildford, UK Line Manager: Prof. Rahim Tafazolli	October 2020 – Present
	<i>Postdoctoral Research Associate</i> The Alan Turing Institute, London, UK Line Manager: Prof. Carsten Maple	May 2020 – October 2020
	<i>Postdoctoral Research Fellow</i> University of Padua, Padua, Italy SPRITZ Security and Privacy Research Group, Padua, Italy Advisor: Prof. Mauro Conti	May 2017 – May 2019
	<i>Visiting Research Fellow</i> Ryerson University, Toronto, Canada Advisor: Prof. Ali Miri	May 2019 – October 2019
Education	<i>Ph.D., Computer Science</i> University of Rome “La Sapienza”, Rome, Italy Thesis: On Automating Design of Smart Grid Systems Advisor: Prof. Enrico Tronci	Nov. 2013 – Feb. 2017
	<i>M.Sc., Computer Engineering</i> University of Dezful, Dezful, Iran Thesis: Designing a New Job Scheduling Based on Artificial Intelligence Algorithms for Computational Grid Systems - GPA (18.57/20.00) Advisor: Prof. Ali Harounabadi	Sep. 2009 – Sep. 2012
	<i>B.Sc., Computer Engineering</i> University of Mahshahr, Mahshahr, Iran Thesis: Module Programming in Linux Kernel - GPA (14.71/20.00) Advisor: Prof. Amir. M. Rahmani	Sep. 2005 – Sep. 2007

Post.Diploma., Computer Engineering Sep. 2002 – Sep. 2004
University of Dezful, Dezful, Iran
Thesis: Automated Warehousing System - GPA (16.97/20.00)
Advisor: Prof. Jamshid Shanbehzadeh

Research Experiences

Alan Turing Institute, London, UK, Research Associate May 2020 – October 2020

- **UK project:** Trusted digital infrastructure for identity systems, Enhancing the privacy and security of national digital identity systems

University of Padua, Italy, Research Associate May 2017 – May 2019

- **Horizon 2020:** TagItSmart!, Internet of Things and Platforms for Connected Smart Objects- Smart Tags driven service platform for enabling ecosystems of connected objects

University of Rome "La Sapienza", Rome, Italy, Research Assistant Feb. 2016-July 2019

- **Italian PRIN15:** GAUCHO, A Green Adaptive Fog Computing and Networking Architecture

University of Rome "La Sapienza", Rome, Italy, Research Assistant Nov. 2013-Feb. 2017

- **FP7-ICT project:** SmartHG, Energy Demand Aware Open Services for Smart Grid Intelligent Automation (Optimization algorithm using C/C++ on CPLEX)

Teaching Experiences—

Computer Science Lecturer

Dezful University, Dezful, Iran Sep. 2009 – Sep. 2013

- Computer Network, Software Engineering, Programming Languages, Storage and Data Retrieval

Andimeshk University, Andimeshk, Iran Sep. 2011 – Sep. 2013

- Programming Languages, Computer Network, Web Programming, Graphic Design, Storage and Data Retrieval

University of Applied Science and Technology, Dezful, Iran Fall 2013

- System Analysis and Design, Object-Oriented Data Analysis

Publications

h-index: 18

i10-index: 22

Citations: 908+

- Under review

1. **Z. Pooranian**, M. Conti, H. Hadaddi, R. Tafazolli, Online Advertising Security: Issues, Taxonomy, and Future Directions. In **IEEE Communications Surveys and Tutorials**, under review, 2020. (**IF=23.7**)

- **Journal Papers**

1. **Z. Pooranian**, M. Shojafar, S. Garg, R. Taheri, **R. Tafazolli**, LEVER: Secure Deduplicated Cloud Storage with Encrypted Two-Party Interactions in Cyber-Physical Systems, In **IEEE Transactions on Industrial Informatics** (TII), pp. 1-10, September 2020. (**IF=9.1129**)
2. R. Taheri, R. Javidan, M. Shojafar, **Z. Pooranian**, A., Miri, M. Conti, On Defending Against Label Flipping Attacks on Malware Detection Systems, Springer, **Neural Computing and Applications** (NCAA), pp. 1-23, March 2020. (**IF=4.774**)
3. R. Taheri, R. Javidan, **Z. Pooranian**, Adversarial Android Malware Detection for Mobile Multimedia Applications in IoT Environments, Springer, **MTAP**, pp. 1-12, February 2020. (**IF=2.313**)
4. R. Taheri, M. Ghahremani, R. Javidan, M. Shojafar, **Z. Pooranian**, M. Conti, Similarity-based Android Malware Detection Using Hamming Distance of Static Binary Features, **Elsevier, Future Generation Computer Systems**, Vol. 105, pp. 230-247, April 2020. (**IF=6.125**)
5. P.G. Vineuza, **Z. Pooranian**, M. Shojafar, M. Conti, R. Buyya, FOCAN: A Fog-supported Smart City Network Architecture for Management of Applications in the Internet of Everything Environments, **Elsevier, Journal of Parallel and Distributed Computing** (JPDC), Vol. 132, pp. 3731, September 2019. (**IF=2.296**)
6. H. Mehdi, **Z. Pooranian**, P.G. V. Naranjo, Cloud Traffic Prediction based on Fuzzy ARIMA Model with Low Dependence on Historical Data, Wiley, **ETT**, pp. 1-20, 1.594 2019. (**IF=1.258**)
7. **Z. Pooranian**, J. H. Abawajy, V. P, M. Conti, Scheduling Distributed Energy Resource Operation and Daily Power Consumption for a Smart Building to Optimize Economic and Environmental Parameters, **Energies**, Vol. 11, Iss. 6, May 2018. (**IF=2.702**)
8. P. G. V. Naranjo, **Z. Pooranian**, Sh. Shamshirband, J. H. Abawajy, M. Conti, Fog over Virtualized IoT: New Opportunity for Context-Aware Networked Applications and a Case Study, *Applied Sciences*, Vol. 7, Iss. 12, December 2017. (**IF=1.689**)
9. M. Shojafar, **Z. Pooranian**, P.G.V. Naranjo, E. Baccarelli, FLAPS: Bandwidth and Delay-efficient Distributed Data Searching in Fog-supported P2P Content Delivery Networks, Springer, *Journal of Supercomputing* (**SUPE**), Vol. 73, Iss. 12, pp. 1–22, June 2017. (**IF=2.469**)
10. P.G. Vineuza, M. Shojafar, H. Mostafaei, **Z. Pooranian**, E. Baccarelli, P-SEP: A Prolong Stable Election Routing Algorithm for Energy-limited Heterogeneous Fog-supported Wireless Sensor Networks, Springer, *Journal of Supercomputing* (**SUPE**), Vol. 73, Iss. 2, pp. 733–755, February 2017. (**IF=2.469**)
11. **Z. Pooranian**, M. Shojafar, J.H. Abawajy, A. Abraham, An Efficient Meta-heuristic Algorithm for Grid Computing, Springer, *Journal of Combinatorial Optimization* (JOCO), Vol. 30, No. 3, pp. 413-434, 2015. (**IF=0.990**)
12. M. Shojafar, **Z. Pooranian**, M.R. Meybodi, M. Singhal, ALATO: An Efficient Intelligent Algorithm for Time Optimization in an Economic Grid Based on Adaptive Stochastic Petri Net, Springer, *Journal of Intelligent Manufacturing* (JIMS), Vol. 26, Iss. 4, pp. 641–658, August 2015. (**IF=4.311**)

13. M. Shojafar, J.H. Abawajy, Z. Delkhah, A. Ahmadi, **Z. Pooranian**, A. Abraham, An Efficient and Distributed file search in Unstructured Peer-to-Peer Networks, Springer, Peer-to-Peer networking and Applications (PPNA), Vol. 8, No. 1, pp. 120-136, January 2015. (**IF=2.793**)
14. **Z. Pooranian**, M. Shojafar, B. Javadi, A. Abraham, Using Imperialist Competition Algorithm for Independent Task Scheduling in Grid Computing, IOS Press, Journal of Intelligent and Fuzzy Systems (JIFS), Vol. 27, No. 1, pp. 55-67, December 2014. (**IF=1.851**)
15. **Z. Pooranian**, M. Shojafar, R. Tavoli, M. Singhal, A. Abraham, A hybrid metaheuristic algorithm for Job scheduling on computational grids, Informatica, Vol. 37, No. 2, pp. 157, May 2013. (**IF=1.928**)
16. **Z. Pooranian**, M. Shojafar, J.H. Abawajy, M. Singhal, GLOA: A New Job Scheduling Algorithm for Grid Computing, International Journal of Interactive Multimedia and Artificial Intelligence (IJIMAI), Vol. 2, No. 1, pp. 59-64, March 2013. (IF = 2.561)
17. M. Shojafar, **Z. Pooranian**, J.H. Abawajy, M.R. Meybodi, An Efficient Scheduling Method for Grid Systems Based on a Hierarchical Stochastic Petri Net, Journal of Computing Science and Engineering (JCSE), Vol. 7, No. 1, pp. 44-52, March 2013.

- **Conference Papers**

1. M. Shojafar, R. Taheri, **Z. Pooranian**, ... M. Conti, Automatic Clustering of Attacks in Intrusion Detection Systems, In Proceedings of the 16th ACS/IEEE International Conference on Computer Systems and Applications, (**IEEE ACS 2019**), Abu Dhabi, UAE, 3-7 November 2019.
2. **Z. Pooranian**, K-Ch. Chen, Ch-Mu. Yu, M. Conti, RARE: Defeating Side Channels based on Data-Deduplication in Cloud Storage, In Proceedings of the 7th International workshop on Cloud Computing Systems, Networks, and Applications (**IEEE INFOCOM 2018 workshop: CCSNA 2018**), Honolulu, USA, April 16, 2018.
3. **Z. Pooranian**, M. Shojafar, P.G. V. Naranjo, L. Chiaraviglio, M. Conti, A Novel Distributed Fog-based Networked Architecture to Preserve Energy in Fog Data Centers, 14th **IEEE MASS**, Florida, USA, pp. 604-609, October 2017.
4. **Z. Pooranian**, N. Nikmehr, S. Najafi-Ravadanegh, H. Mahdin, J. Abawajy, Economical and environmental operation of smart networked microgrids under uncertainties using NSGAI, 24th **IEEE SOFTCOM**, Split, Croatia, August 2016.

- **Book Chapter**

1. M. Shojafar, **Z. Pooranian**, M. Shojafar, A. Abraham, LLLA: New Efficient Channel Assignment Method in Wireless Mesh Networks, Springer Invited Book Chapter in Innovations in Bio-inspired Computing and Applications Advances in Intelligent Systems and Computing, Vol. 237, pp. 143-152, January 2014.

Honors, Awards and Grants

- Visiting Research Fellowship, University of Ryerson, Toronto, Canada, 19500 CAD, 2019.
- Research Assistant Fellowship, University of Padua, Padua, Italy, H2020 Support, € 19500, 2018-2019.

- Research Assistant Fellowship, University of Padua, Padua, Italy, H2020 Support, € 19500, 2017-2018.
- Ph.D. Fellowship, University of Rome “La Sapienza”, Rome, Italy, FP7 European Support, € 16800 per year, 2014-2017.
- International Transactions on Electrical Energy Systems, Review Certificate Award, 2018.
- Journal of Network and Computer Applications (JNCA), Review Certificate Award, 2016.
- Ranked 5th among 100+ M.Sc. students in Computer Engineering, 2012.

Certificates and Memberships

- Certificate LITEC-IRAN L.P.I, Sharif University, **ICCNA**, 2013.
- Certificate LITEC-IRAN L.P.I, Sharif University, **CCNP**, 2013.
- Certificate LITEC-IRAN L.P.I, Sharif University, **Web Design**, 2013.
- **IEEE Computer Society**.
- **IEEE member**.

Invited Talks

- Invited Speaker, **ICTALK-2020** virtual event organized by the National University of Chimborazo (Ecuador), speaking about “Side-Channel Attack in Cloud Storage,” 15 December 2020.
- RARE: Defeating Side Channels based on Data-Deduplication in Cloud Storage, Paper presentation, 7th International workshop on Cloud Computing Systems, Networks, and Applications (IEEE **INFOCOM** 2018 workshop: CCSNA 2018), Honolulu, USA, 2018 (present as tutorial in Ryerson University, 2019).
- A Novel Distributed Fog-Based Networked Architecture to Preserve Energy in Fog Data Centers, Paper presentation, IEEE 14th International Conference on Mobile Ad Hoc and Sensor Systems (**MASS**), Orlando, FL, USA, 2017.
- Economical and environmental operation of smart networked microgrids under uncertainties using NSGA-II, Paper presentation, 24th IEEE **SOFTCOM**, Split, Croatia, 2016.

Academic Service and Volunteer

- **Editorial Member**
 - Editor, KSII **Transactions** on Internet and Information Systems, 2017 – Present
 - Editor, MDPI **Future Internet**, 2018 – Present
- **Academic Reviewer**
 - IEEE **Transactions** on Information Forensics and Security, 2017 – Present
 - IEEE **Transactions** on Evolutionary Computation, 2016 – Present
 - IEEE **Transactions** on Industrial Informatics, 2015 – Present
 - Journal of Network and Computer Applications (Elsevier), 2016 – Present
 - Journal of Applied Soft Computing (Elsevier), 2014 – Present
 - Journal of Cluster Computing (Springer), 2015 – Present
- **Workshops Assistant**
 - TagItSmart - OC2 Workshop, Padua, Italy, 2018

- SPRITZ-CLUSIT Workshop on Future Systems Security and Privacy, Padua, Italy, 2017
- eWINE- Intelligent wireless connectivity for Future Networks (Presenters: Accademia Nazionale dei Lincei), Rome, Italy, 2016
- Edge Computing, 5G, and IoT (Presenters: CISCO, Huawei, Samsung Electronics R&D, ATOS, Telecom Italia, NEC, CEA), Rome, Italy, 2015

- **Committee Member**

- Program committee member of 10th IEEE International Conference on Consumer Electronics (ICCE), Berlin, 2020
- Program Committee Member, 10th International Conference On Security Of Information And Networks (SIN-2017), India, 2017
- Program Committee Member, International Conference Cloud and Trusted Computing 2018 (CTC 2018), Valletta, Malta, 2018
- 2nd ISEA Conference on Security and Privacy (Second edition of ISEA Sponsored Asia Security and Privacy 2017)

- **Session Chair**

- Track (Nature’s Inspired Parallel Collaborative Systems) in the10th International Conference on Intelligent Networking and Collaborative Systems (INCoS-2019), Oita, Japan, September 5-7, 2019
- Track (Nature’s Inspired Parallel Collaborative Systems) in the10th International Conference on Intelligent Networking and Collaborative Systems (INCoS-2018), Bratislava, Slovakia. September 5-7, 2018

- **Mentored Researchers**

- Project Mentor
 - * Undergraduate/Graduate Students, Dezful University and Andimeshk University, 2010-2013.
- Ph.D. Mentor
 - * Sanaz Soltani, Ph.D. Candidate, Dept. Electrical and Electronic Engineering, University of Surrey, UK (Ph.D. expected 2023)
 - * Parya HajiMirzaee, Ph.D. Candidate, Dept. Electrical and Electronic Engineering, University of Surrey, UK (Ph.D. expected 2023)
 - * QianQian Li, Ph.D. Candidate, Dept. Mathematics and HIT Center, University of Padua, Italy (2017)
 - * Mahdiah Izadpanah - Visiting Ph.D. Student in Sapienza University of Rome (Ph.D. expected 2019)
 - * Seyedeh Fatemeh Hajeforosh, Ph.D. Candidate, Dept. Electrical Engineering, Lulea University of Sweden (Ph.D. expected 2022)
 - * Hamid Mehdi, Ph.D. Candidate, Dept. Computer Engineering, University of Tehran (Ph.D. expected 2021)

Industry Experience

Avan-Pardaz Company, Dezful, Iran 2004 – 2007

- Software Designer, Project Manager, R&D Analyst

Dezful Registration Land and Documents Organization, Dezful, Iran 2007 – 2008

- Leading the over 20 Members of a Team
- Operating System Troubleshooting, Data Entry Consistency and Integrity Guarantee and Automation of the Land Registry System

Technical Skills

- **Programming Languages:** C, C++, Python, Java, Bash Scripting, PHP, CSS, HTML, Matlab
- **Scientific programming tools:** CPLEX, CVX, LaTeX
- **Operating Systems:** Linux, Windows, Mac OS

Languages

- **Persian:** Native
- **English:** English IELTS academic test score: 6.5
- **Italian:** Intermediate level