

CONTACT INFORMATION	Rue Marconi 19 1920 Martigny Switzerland	(+41) 27-721-77-58 ☎ sajadmanesh@idiap.ch ✉ https://sajadmanesh.com 🏠
RESEARCH SUMMARY	My research interests lie at the intersection of privacy, deep learning, and graph analysis. More specifically, I use privacy enhancing technologies, such as differential privacy and federated learning, with graph representation learning algorithms, including graph neural networks, to make them more private, secure, and robust for real-world applications.	
EDUCATION	<p>École Polytechnique Fédérale de Lausanne (EPFL), Lausanne, Switzerland, May 2019 – May 2023</p> <p>Ph.D. in Electrical Engineering GPA: 5.75 / 6</p> <p>Thesis: <i>Learning over Graphs: A Privacy-Preserving Approach</i></p> <p>Adviser: Prof. Daniel Gatica-Perez</p> <p>Relevant Courses: Artificial Neural Networks (Deep Reinforcement Learning), Deep Learning for Natural Language Processing, Advanced Topics in Machine Learning</p> <p>Sharif University of Technology, Tehran, Iran, Sep 2014 – Sep 2016</p> <p>M.Sc. in Information Technology Engineering GPA: 18.1 / 20</p> <p>Thesis: <i>Link Prediction in Heterogeneous Multi-Layer Social Networks</i></p> <p>Adviser: Prof. Hamid R. Rabiee</p> <p>Relevant Courses: Machine Learning, Complex Dynamical Networks, Performance Modeling of Computer Systems, Advanced Network Security, Database Security and Privacy</p> <p>University of Isfahan, Esfahan, Iran, Sep 2009 – Feb 2014</p> <p>B.Sc. in Computer Software Engineering GPA: 16.19 / 20 (Last four semesters: 17.4 / 20)</p> <p>Project: <i>Design and Implementation of an Android App for Voice Control of Household Devices</i></p> <p>Adviser: Prof. Ahamd R. Naghsh-Nilchi</p> <p>Relevant Courses: Data Structures, Algorithms, Probability and Statistics, Artificial Intelligence, Information Retrieval, Software Engineering, Databases, Operating Systems, Computer Networks</p>	
RESEARCH EXPERIENCE	<p>Research Assistant, May 2019 – present</p> <p>Social Computing Group, Idiap Research Institute, Martigny, Switzerland</p> <ul style="list-style-type: none"> Developing privacy-preserving graph neural network models using differential privacy to reduce the privacy risks of using graph representation learning algorithms in real applications. <p>Research Assistant, (Offered, but declined due to visa problems)</p> <p>IBM-ILLINOIS Center for Cognitive Computing Systems Research, University of Illinois at Urbana-Champaign, Champaign, Illinois, United States</p> <p>Research Assistant, Nov 2014 – May 2019</p> <p>Data Science and Machine Learning Lab, Sharif University of Technology, Tehran, Iran</p> <ul style="list-style-type: none"> Privacy-Preserving Deep Learning: Worked on a hybrid approach based on Siamese fine-tuning and split learning to make non-private pre-trained deep learning models privacy-preserving at the inference stage. Web Data Science: Analyzed a large-scale collection of recipes published on the web and their content, aiming to understand cuisines and culinary habits around the world. Social and Information Networks: Developed time-aware link prediction algorithms over heterogeneous social networks using recurrent neural networks and non-parametric machine learning. 	
TEACHING EXPERIENCE	<p>Guest Lecturer, Fall 2017</p> <p>Department of Computer Engineering, Sharif University of Technology, Tehran, Iran</p> <p>Course: Fundamentals of Programming (Python)</p> <p>Website: http://ce.sharif.edu/courses/96-97/1/ce153-12/</p> <p>Teaching Assistant</p> <p>EPFL</p> <ul style="list-style-type: none"> Computational Social Media (Head TA), Spring 2021 <p>Sharif University of Technology</p> <ul style="list-style-type: none"> Artificial Intelligence (Head TA), Spring 2017 Advanced Topics in Artificial Intelligence - Statistical Learning Theory, Spring 2016 Engineering Probability and Statistics, Spring 2016 <p>University of Isfahan</p> <ul style="list-style-type: none"> Artificial Intelligence, Fall 2013 Advanced Computer Programming 2 - JavaFx and Android, Fall 2012 	

- Computer Programming - Java, Fall 2011
- Computer Programming - C++, Fall 2010

INDUSTRIAL
EXPERIENCE

Big-Data Engineer, Sep 2018 – May 2019

Sharif ICT Innovation Center, Tehran, Iran

- Responsible for building a native big-data processing platform using state of the art technologies, such as Spark, Cassandra, JanusGraph, Elasticsearch, etc.

Software Engineering Intern, Summer 2012

Amin Computer Co., Esfahan, Iran

- Responsible for designing and developing an Android application for company's web-based human resource management system.

PUBLICATIONS

- [1] **Sina Sajadmanesh** and Daniel Gatica-Perez
Locally Private Graph Neural Networks
ACM Conference on Computer and Communications Security (CCS 2021), Nov 2021
- [2] Seyed Ali Ossia, Ali Shahin Shamsabadi, **Sina Sajadmanesh**, *et al.*
A Hybrid Deep Learning Architecture for Privacy-Preserving Mobile Analytics
IEEE Internet of Things Journal, May 2020
- [3] **Sina Sajadmanesh**, Sogol Bazargani, Jiawei Zhang, and Hamid R. Rabiee
Continuous-Time Relationship Prediction in Dynamic Heterogeneous Information Networks
ACM Transactions on Knowledge Discovery from Data, Aug 2019
- [4] **Sina Sajadmanesh**, Jiawei Zhang, and Hamid R. Rabiee
NPGLM: A Non-Parametric Method for Temporal Link Prediction
Technical Report, ArXiv e-prints, Jun 2017
- [5] **Sina Sajadmanesh**, Sina Jafarzadeh, Seyed Ali Ossia, *et al.*
Kissing Cuisines: Exploring Worldwide Culinary Habits on the Web
International World Wide Web Conference (WWW 2017) Companion, Apr 2017
- [6] **Sina Sajadmanesh**, Hamid R. Rabiee and Ali Khodadadi
Predicting Anchor Links between Heterogeneous Social Networks
IEEE/ACM International Conference on Advances in Social Networks Analysis and Mining, Aug 2016

MEDIA
COVERAGE

- **MIT Technology Review**, How Data Mining Reveals the World's Healthiest Cuisines, 3 Nov 2016
- **The Independent**, These are the world's most diverse cuisines, 11 Nov 2016
- **France 24**, Un algorithme compare les cuisines du monde en matière d'ingrédients et d'apports nutritionnels, 15 Nov 2016
- **Sciences et Avenir**, Les cuisines du monde passées au crible des big data, 14 Nov 2016

INVITED
TALKS

Locally Private Graph Neural Networks, Jan 2021

Twitter Machine Learning Seminar

Privacy-Preserving Deep Learning Over Graphs, Dec 2020

Information Processing and Communications Lab, **Imperial College London**, UK

PROFESSIONAL
SERVICES

- Reviewer: Distributed and Private Machine Learning Workshop (2021)
- Reviewer: ACM Transactions on Intelligent Systems and Technology (2020)
- Reviewer: Social Network Analysis and Mining Journal (2020)
- Reviewer: World Wide Web Journal (2018)

HONORS
AND AWARDS

- **PhD admission**, Computer Science, University of Illinois at Urbana-Champaign, 2018 (declined)
- **PhD admission** Computer Science, Hong-Kong University of Science and Technology, 2017 (declined)
- **Ranked 3rd** in cumulative GPA among B.Sc. Computer Software Engineering students admitted for Fall 2009, University of Isfahan, 2014
- **Ranked 6th** in Iranian nationwide university entrance exam for graduate studies, field of Artificial Intelligence, among more than 100000 students, 2014
- **Ranked 15th** in Iranian nationwide university entrance exam for graduate studies, field of Computer Networks and Security, among more than 30000 students, 2014

- **Ranked 28th** in 18th National Computer Olympiad for University Students at Tarbiat Modares University , Tehran, Iran, 2013
- **Ranked 16th** in ACM-ICPC regional contest, Asia region, Tehran site, among more than 70 teams at University of Tehran , Tehran, Iran, 2011
- **Ranked 2nd** in nationwide collegiate programming contest among more than 70 teams at University of Kashan , Kashan, Iran, 2010
- **Ranked among top 0.02%** in Iran's nationwide university entrance exam for undergraduate studies., 2009

MEMBERSHIPS ACM Professional Member, 2020 – Present
ACM Student Member, 2011 – 2014
ACM-ICPC Student Chapter, [University of Isfahan](#), Esfahan, Iran, 2010 – 2012

TECHNICAL SKILLS *Programming:*
Python, Java, C, C++, MATLAB, PHP, Javascript

Information Retrieval & Analytics:
Elasticsearch, JanusGraph, Cassandra

Data Science and Machine Learning:
PyTorch, PyTorch-Geometric, PyTorch-Lightning, Scikit-Learn, Pandas

REFERENCES **Prof. Daniel Gatica-Perez**, Idiap Research Institute, EPFL
Website: <https://idiap.ch/~gatica> Email: daniel.gatica-perez@epfl.ch

Prof. Hamid R. Rabiee, Department of Computer Engineering, Sharif University of Technology
Website: <http://sharif.ir/~rabiee> Email: rabiee@sharif.edu

Prof. Hamed Haddadi, Dyson School of Design Engineering, Imperial College London
Website: <https://haddadi.github.io/> Email: h.haddadi@imperial.ac.uk

Prof. Emiliano De Cristofaro, Department of Computer Science, University College London
Website: <https://emilianodc.com/> Email: e.decrisofaro@ucl.ac.uk