

Siminfar Samakoush Galougah

PhD. Research Scholar, Electrical Engineering and Computer Science



Education

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University of Maryland

PhD. , Electrical Engineering and Computer Science, GPA - 3.5/4

College-Park, Maryland

Dec.2021-Present

Amirkabir University of Technology

M.Sc. , Wireless Communications, GPA - 4/4

Graduated First Class with Distinction

Tehran

Sep.2017-Feb.2020

Paris-Saclay (Telecom Paris)

M.Sc. , Computer Science, GPA - 3.93/4

Paris

Sep.2018-Sep.2019

Amirkabir University of Technology

B.Sc. , Electronics and Communications Engineering, GPA - 3.89/4

Graduated First Class with Distinction

Tehran

Sep.2013-Sep.2017

Shahid Esfahani

Class 12 Mathematics and physics, 19.98/20

Babol

2012-2013

Conference and Journal Papers

- **Siminfar Samakoush Galougah**, Ramani Duraiswami, "Applying Automatic Differentiation to Optimize Differential Microphone Array Designs", submitted to the ICASSP 2025.
- **Siminfar Samakoush Galougah**, Ramani Duraiswami, "Computing the Gradients of Sound Pressure Using Differentiable Programming Techniques", to be submitted.
- **Siminfar Samakoush Galougah**, "Power allocation in User-Centric Cell-Free Massive MIMO Systems with Limited Fronthaul Capacity", World Academy of Science, Engineering and Technology, Open Science Index 211, International Journal of Electronics and Communication Engineering, (2024), 18(7), 178 - 183.
- **Siminfar Samakoush Galougah**, Luca Rose, Philippe Sehier, "Coexistence Scenarios in 5G: Outdoor-Outdoor and Outdoor-Indoor Networks", 21st Annual Wireless Telecommunications Symposium (WTS 2022)[IEEE indexed], Virtual Conference, May. 2022.
- **Siminfar Samakoush Galougah**, Hamed Masoumi, Mohammad Javad Emadi, "User Management in Cell-Free Massive MIMO Systems with Limited Fronthaul Capacity", 29th Iranian Conference on Electrical Engineering (ICEE 29) [IEEE indexed], Tehran, Iran, May.2021.
- **Siminfar Samakoush Galougah**, Mahdi Mozaffaripour, "Dimensioning of 5G Networks by Using Stochastic Geometry", International Journal of Information and Communication Technology Research (IJICTR). 2021; 13(2):8-16. URL: <http://ijict.itrc.ac.ir/article-1-518-en.pdf>.
- **Siminfar Samakoush Galougah**, Mahdi Mozaffaripour, "Dimensioning of 5G Networks by Using Stochastic Geometry", 29th Iranian Conference on Electrical Engineering (ICEE 29) [IEEE indexed], Tehran, Iran, May.2021.

Skills

Languages/Packages and Tools: C++, Python, VERILOG(VHDL), MATLAB, LATEX, PyTorch, TensorFlow, Scikit-learn, SQL, Git, CUDA, OpenCV

Technical Skills: Signal and Sound Processing, Computational Audio, Beamforming and Sound Source Localization, Wireless Communications, 5G, Information Theory, Dimensioning, Optimization, Fast Multipole Methods, Machine Learning, Neural Networks

Research and Work Experience

-Working on Microphone Arrays, Beamforming, and Sound Source Localization

Guide: Dr. R.Duraiswami

Feb.2023-Present

UMD-CS

-Working on using Fast Multiple Methods to study dolphin hearing

Guide: Dr. R.Duraiswami

Jul.2022-Present

UMD-CS

-IP and Network Engineer Intern

Guide: Mr. M.Teymoori

Apr.2021-Jul.2021

Huawei of Tehran

- Artificial Intelligence Research Intern Guide: Dr. M.Mozaffaripour	Feb.2020-Nov.2020 Niroo Research Institute of Iran
- Resource management in CF-mMIMO with limited fronthaul capacity Guide: Dr. M.J.Emadi	Oct.2019-Feb.2020 AUT
- Coexistence of 5G with other wireless technologies Guide: Prof L.Rose	Mar.2019-Sep.2019 Nokia-Bell-labs of Paris
- Dimensioning of 5G system by using stochastic geometry Guide: Prof Ph.Martins	Sep.2018-Feb.2019 Telecom-Paristech
- Pilot and power optimization of SOMA, GSOMA, and TDD in mMIMO Guide: Dr. M.J.Emadi	Aug.2017-Mar.2018 AUT
- Working on webserver to implement a module with Python Guide: Dr. Fasihi	May.2017-Sep.2017 Moduland Company
- Designing and simulating the downlink of massive MIMO systems Guide: Dr. M.J.Emadi	Nov.2016-Aug.2017 Amirkabir University of Technology

Relevant Courses

Communication, Signal & Sound Processing, Vision: Information Theory¹, Broadband Access Networks¹, Advanced Communications Theory¹, Advanced Information Theory¹, Radio Networks Design¹, Advanced Programming, DSP, Physical Limits of Communication¹, Estimation and Detection Theory¹, Statistical Pattern Recognition (Machine Learning)¹, Advanced Topics in Numerical Methods¹, Advanced Numerical Optimization¹, Scientific Computing², Multimodal Foundation Models¹, Computational Audition¹.

Mathematics: Random Processes¹, Probability and Statistics, Convex Optimization¹

Honours and Awards

- Has been awarded the Best Presentation by the Program Committee of the 18th International Conference on Signal Processing, Communications and Networking July 15-16, 2024 in Washington, United States
- Has been awarded as one of the reviewers of the 3rd International Conference on 6G Networking (6GNet 2024), 21 - 24 October 2024 - Paris, France
- Selected to present on the doctoral session of the 21st Wireless Telecommunications Symposium(WTS 2022) Conference.
- Has been awarded as one of the reviewers of the Sixth International Conference on Biological Information and Biomedical Engineering (BIBE2022), July 19-21, 2022, Qingdao, China.
- Has been awarded as one of the recipients of Jane Ephremides fellowship from the University of Maryland, College-Park, 2021.
- Has been selected as one of the Elite Sisco Chair Grant recipients of Telecom Paris Tech, 2018.
- Ranked second among all students in the graduate class at the Amirkabir University of Technology (AUT).
- Granted admission from the Talented Student Office of AUT for graduate study.
- Ranked sixth in the National Electrical Engineering Olympiad (final step).
- Permitted to study Electronics as a minor (This permission is only awarded to talented students, introduced by the Exceptional Talents Office).
- Ranked within the top 0.1 percent among about 300,000 students in the nationwide university entrance exam for B.Sc.

Teaching Assistance (TA) Expiience

TA for Signal and System Theory (Undergraduate Course) University of Maryland, UMD	Aug.2022-Dec.2022
<ul style="list-style-type: none"> Leading and supervising students in course material, assignments, exams Instructor: Dr. Papamarcou 	
TA for Elements of Discrete Signal Analysis (Undergraduate Course) University of Maryland, UMD	Jan.2022-May.2022
<ul style="list-style-type: none"> Leading and supervising students in course material, assignments, exams 	

¹graduate-level course

- Instructor: Dr. Papamarcou

TA for Communication Systems 2 (Undergraduate Course)

Oct.2017-Feb.2018

Amirkabir University of Technology, Tehran

- Leading and supervising students in course material, assignments, exams

- Instructor: Dr. Emadi

TA for Communication Systems 1 (Undergraduate Course)

Feb.2018-Jun.2018

Amirkabir University of Technology, Tehran

- Leading and supervising students in course material, assignments, exams

- Instructor: Dr. Emadi

Certifications

- Has completed Neural Networks and Deep Learning, July.2022 (Coursera Online Course by Andrew Ng)
- Participating as organization staff in "InfoCom conference 2019, Paris"
- Has completed part of the Ericsson Middle East University Program, 2016 (Ericsson Academy)
- Has completed 23.5 hours of Deep Learning A-Z, sept.2018 (Udemy Online Courses)

Languages

- Native/Fluent: Persian, and English
- Intermediate: French, and Arabic

Hobbies

- Playing Guitar and Daf
- Sightseeing
- Swimming

References

Professor at the University of Maryland-CS Department

- Dr.Ramani Duraiswami, ramanid@umd.edu

Senior Researcher at Nokia Bell-Labs

- Dr.Luca Rose, luca.rose@nokia.fr

Associate professor at Niroo Research Institute

- Dr. Mahdi Mozaffaripour, mmozaffaripour@nri.ac.ir

Associate professor at Amirkabir University of Technology

- Dr. M.J.Emadi, mj.emadi@aut.ac.ir