

Ehsan Tanghatari

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Education



- 2024 – Now **Postdoctoral Fellow, Sharif University of Technology** Electrical Engineering.
Research Field: *Providing privacy in Federated learning using homomorphic methods*
Supervisor: *Prof. Hamid R. Rabiee*
- 2017 – 2023 **Ph.D., University of Tehran** Electrical Engineering.
Thesis title: *Provide a structure for distributing neural network learning over the edges of IoT networks*
Dissertation grade: *Excellent*
Supervisor: *Prof. Ali Afzali Kousha, DR. Mehdi Kamal*
GPA: *18.6/20.0*
Notable Course
Neural Network *18.75/20.0*
- 2015 – 2017 **MS, Sharif University of Technology** Electrical Engineering.
Thesis title: *Robust Video Fingerprint Algorithm*
Dissertation grade: *Excellent*
Supervisor: *Dr. Mohammad Sharifkhani*
GPA: *17.5/20.0*
Notable Course
Computer Vision in Intelligent Environment *18.7/20.0*
Computer Vision *15.6/20.0*
- 2009 – 2014 **BS, Shahid Beheshti University** Electrical Engineering.
Project title: *Vehicle control using the GSM network(Patented)*
Dissertation grade: *Excellent*
Supervisor: *Prof. Mohammad Eshghi*
GPA: *15.5/20.0*
Notable Course
Mathematics II *20.0/20.0*
Probability and Statistics, *16.5/20.0*

Employment History




- 2022 – Now **Director of Electrical and Computer Patent Examination** Sharif University Patent Office.
- 2018 – 2022 **Electrical and Computer Patent Examiner Agent** Sharif University Patent Office.
- 2018 – 2023 **Software Engineer** Computer Vision and AI Engineer in SamimGroup.

Research Publications

Journal Articles

- 1 E. Tanghatari, M. Kamal, A. Afzali-Kusha, and M. Pedram, "Federated learning by employing knowledge distillation on edge devices with limited hardware resources," *Neurocomputing*, vol. 531, pp. 87–99, 2023, ISSN: 0925-2312.  DOI: <https://doi.org/10.1016/j.neucom.2023.02.011>.
- 2 E. Tanghatari, M. Kamal, A. Afzali-Kusha, and M. Pedram, "Distributing dnn training over iot edge devices based on transfer learning," *Neurocomputing*, vol. 467, pp. 56–65, 2022, ISSN: 0925-2312.  DOI: <https://doi.org/10.1016/j.neucom.2021.09.045>.
- 3 A. Hadizadeh and E. Tanghatari, "Parallel processor architecture with a new algorithm for simultaneous processing of mips-based series instructions," *Emerging Science Journal*, vol. 1, no. 4, pp. 226–232, 2017.

Skills

Languages	 Persian Native Proficiency, English Professional Working Proficiency
Coding	 Java, Python, C/C++, MATLAB
Misc.	 Academic research, Teaching, Consultation.

Research Interest

Privacy-Preserving Federated Learning
Distributed learning
Data Privacy
Machine Learning
Computer Vision
Data Science

Suggested Courses for Teaching

Machine Learning
Neural Networks
Computer Vision
Statistics and Probability
Signals and Systems

Awards and Achievements

National Patent, Driving and controlling vehicles remotely using high-speed wireless communication systems. Publication Number: 139350140003006414.

59th place, National-wide exam for PhD admission in Electrical Engineering.

26th place, National-wide exam for graduate admission in Electrical Engineering Engineering.

References

Prof. Hamid R Rabiee

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DR. Mehdi Kamal

ECE Dept.
University of Southern California,
Email:mehdikamal@gmail.com

Prof. Ali Afzali Kousha

ECE Dept.
University of Tehran,
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Dr. Mohammad Sharifkhani

Electrical Eng. Dept.
Sharif University of Technology,
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