

# Mahsa Forouzesh



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mahf93

## Education

- 2017-present **Ph.D. in Computer Science** EPFL  
Specialization: Generalization Ability of Deep Neural Networks  
Expected Graduation: Summer 2023
- 2012-2016 **B.Sc. in Electrical Engineering** University of Tehran  
GPA: 18.22/20 (3.82/4) — GPA of last 2 years: 18.87/20 (3.96/4)

## Experience

- May 2022 - September 2022 **Software Engineering Internship** Google, Zurich, Switzerland
- Building offensive image classifiers using image embeddings and OCRs
  - Resulting in a headroom reduction of 38.8%
  - Tools: Python, FlumeC++, TensorFlow, Colab, Numpy, GoogleSQL
- 2017-2022 **Selected Projects**
- Developed and designed novel metrics to predict overfitting in neural networks resulting in two publications in top-tier Machine Learning conferences
  - Proposed an extension of the CMOW model for Sentence embedding
  - Implemented MeProp using Pytorch
  - Designed a recommender system using Tensorflow
  - Implemented the elastic averaging SGD algorithm using Tensorflow
- 2020-2022 **Master and Bachelor Semester Project Supervisions** EPFL
- Project design and working with students for the following projects: Studying variants of MeProp, NAS without Training using Sensitivity, and Early Stopping for Time-series Applications
- 2021-2022 **Conference Paper Review** for NeurIPS 2022, ICLR 2022 (selected as a **highlighted reviewer**), and ICML 2022 conferences
- 2018-2022 **Teaching Assistant** for Courses: Machine learning with over 500 students, Dynamical system theory for engineers, Probability and statistics, Stochastic models in communication, and Mise à niveau (MAN)

## Programming

Expert: Python • PyTorch • TensorFlow • Pandas • Numpy

Good: C++ • MATLAB • C • SQL • Flume •  $\LaTeX$

Medium: SIMULINK • Arduino • HSpice • Verilog • Multisim • NS2 • Wireshark

## Publications

- Leveraging Unlabeled Data to Track Memorization** (ICLR 2023)  
Mahsa Forouzesh, Hanie Sedghi, Patrick Thiran
- Disparity Between Batches as a Signal for Early Stopping** (ECML/PKDD 2021)  
Mahsa Forouzesh, Patrick Thiran
- Generalization Comparison of Deep Neural Networks via Output Sensitivity** (**Oral Presentation** at ICPR 2020)  
Mahsa Forouzesh, Farnood Salehi, Patrick Thiran