

# Parvaneh JANBAKHSHI

## PERSONAL DATA

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NATIONALITY AND BIRTH YEAR: Iranian | 1991  
EMAIL: [parvaneh.janbakhshi@idiap.ch](mailto:parvaneh.janbakhshi@idiap.ch)  
WEBPAGE: [pjanbakhshi.github.io](https://pjanbakhshi.github.io)

## EDUCATION

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- 2018–current    Doctor of Philosophy (PhD) in ELECTRICAL ENGINEERING  
École Polytechnique Fédérale de Lausanne (EPFL), Lausanne, Switzerland  
GPA: 5.5/6, 12 credits
- 2014–2016    Master of Science in BIOMEDICAL ENGINEERING (BIOELECTRICS)  
Sharif University of Technology, Tehran, Iran  
GPA: 4/4 (18.88/20), 29 credits–ranked 2<sup>nd</sup>
- 2009–2014    Bachelor of Science in BIOMEDICAL ENGINEERING (BIOELECTRICS)  
Amirkabir University of Technology (Tehran Polytechnic), Tehran, Iran  
GPA: 3.70/4 (17.27/20), 140 credits

## RESEARCH EXPERIENCE

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**Doctoral Researcher** in Idiap Research Institute, Martigny, Switzerland

- Thesis: Automatic intelligibility assessment and detection of pathological speech
  - Supervisor: Prof. Boulard, current
- Relevant coursework: Deep Learning, Optimization for Machine Learning, Statistical Sequence Processing

**Researcher of Cognitive Neurobiology Laboratory** in School of Cognitive Sciences Institute, Tehran, Iran:

- Project: Investigating the phase amplitude coupling in the middle temporal visual area of rhesus monkeys
  - Supervisors: Dr. M. R. Daliri and Dr. M. Esghaei

**Master of Science Thesis** in Sharif University of Technology, Tehran, Iran:

- Thesis: Extraction of respiratory information from ECG and its application for sleep apnea detection
  - Supervisor: Prof. Shamsollahi, 2016
- Relevant coursework: Pattern Recognition, Biological Signal Processing

**Bachelor of Science Thesis** in Amirkabir University of Technology, Tehran, Iran:

- Thesis: Designing and implementing an automatic neuromuscular electro-stimulation device to prevent diseases such as deep vein thrombosis and varicose veins
  - Supervisor: Dr. Maleki, 2014

## RESEARCH INTERESTS

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- Speech and Audio Signal Processing (for clinical applications)
- Machine Learning and Deep Learning
- Biological Signal Processing

## PUBLICATIONS

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- **Janbakhshi, P.**, Kodrasi, I., "Supervised speech representation learning for Parkinson's disease classification", *accepted in ITG Conference on Speech Communication*, 2021.
- **Janbakhshi, P.**, Kodrasi, I., Boulard, H., "Automatic dysarthric speech detection exploiting pairwise distance-based convolutional neural networks", in *Proc. ICASSP*, 2021.
- **Janbakhshi, P.**, Kodrasi, I., Boulard, H., "Subspace-based learning for automatic dysarthric speech detection", *Signal Processing Letters*, 2021.
- **Janbakhshi, P.**, Kodrasi, I., Boulard, H., "Automatic pathological speech intelligibility assessment exploiting subspace-based analyses," *IEEE/ACM Transactions on Audio, Speech, and Language Processing*, 2020.
- **Janbakhshi, P.**, Kodrasi, I., Boulard, H., "Synthetic speech references for automatic pathological speech intelligibility assessment", in *Proc. ICASSP*, 2020.
- **Janbakhshi, P.**, Kodrasi, I., Boulard, H., "Spectral subspace analysis for automatic assessment of pathological speech intelligibility," in *Proc. INTERSPEECH*, 2019.
- **Janbakhshi, P.**, Kodrasi, I., Boulard, H., "Pathological speech intelligibility assessment based on the short-time objective intelligibility measure", in *Proc. ICASSP*, 2019.
- **Janbakhshi, P.**, Shamsollahi, M. B., "Sleep apnea detection from single-lead ECG using features based on ECG-derived respiration (EDR) signals", *IRBM*, 2018.
- **Janbakhshi, P.**, Shamsollahi, M. B., "ECG-derived respiration estimation from single-lead ECG using gaussian process and phase space reconstruction methods", *Biomedical Signal Processing and Control*, 2018.
- Maleki, A., **Janbakhshi, P.**, "Intelligent device for preventing varicose and deep vein thrombosis based on electrical stimulation", Patented in Iran, Patent No. 83492, 2014

## HONORS & AWARDS

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- **Ranked 2** in Master of Science, Bioelectric Major, Electrical Engineering Department, Sharif University of Technology (2016)
- **Ranked 50** among more than 15000 participants in Nationwide University Entrance Exam in Master of Science, Biomedical Engineering (2014)
- Bachelor of Science thesis was awarded by the university as the **best BSc project** of the year in Bioelectric Engineering.

## AD-HOC REVIEWER

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Nature Scientific Reports, Springer Behavior Research Methods, Elsevier Computers in Biology and Medicine

## COMPUTER SKILLS

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Technical Softwares: Pytorch, Matlab, Praat  
Programming languages: Python, C++