

# Pinar AKYAZI

ELECTRICAL AND ELECTRONICS  
ENGINEER *specialized in*

SIGNAL AND IMAGE PROCESSING  
MACHINE LEARNING  
MULTIMEDIA QUALITY ASSESSMENT  
BIOMEDICAL IMAGING  
COMMUNICATION TECHNOLOGIES

## PERSONAL DATA

PLACE AND DATE OF BIRTH: Ankara, Turkey | 30 May 1988  
ADDRESS: Avenue d'Ouchy 58, 1006 Lausanne, Switzerland  
PHONE: +41 78 3019181  
EMAIL: [akyazi.pinar@gmail.com](mailto:akyazi.pinar@gmail.com)

## ACADEMIC EXPERIENCE

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| JAN 2018 - <i>Present</i> | Research and Teaching Assistant in EPFL-STI-IEL-MMSPG<br><i>Research Interests:</i> Machine learning for video quality assessment, subjective and objective quality assessment, digital media<br>Currently building a deep learning engine for quality assessment of videos of different modalities, as part of a CTI project.  |
| SEPT 2014 - DEC 2017      | Research and Teaching Assistant in EPFL-STI-IEL-LTS4<br><i>Research Interests:</i> Signal processing on graphs, multiview systems, immersive communication, image processing<br>Developed graph based methods to improve free viewpoint navigation systems in 3D environments, as part of a SNSF funded project.<br>Supervised one master student as well as two semester projects and numerous class projects on related topics.<br>Gained teaching experience from classes such as Image Communications, Digital Signal Processing, Image Processing for Earth Observation. |
| SEPT 2010 - AUG 2013      | Research and Teaching Assistant in Bogazici University, BUSIM/VAVLab<br>Successfully carried out joint research in departments of Electrical and Electronics Engineering and Biomedical Engineering, on revealing the heterogeneous characteristics of force distribution along skeletal muscle fibers on human leg.<br>Gained teaching experience in Electrical and Electronics Engineering courses, mainly in signal processing, telecommunication and computer programming.  |
| AUG 2010                  | Summer project in Brno University of Technology<br><i>Project title: "Building an Open Source Speech Recognition Toolkit based on Subspace Gaussian Mixture Models (SGMMs) using Weighted Finite State Transducers"</i><br>Took part in the design of Kaldi, a free, open-source toolkit for speech recognition research.   |
| JUN - JULY 2009           | Summer workshop in Johns Hopkins University, CLSP<br><i>Project title: "Low Development Cost, High Quality Speech Recognition for New Languages and Domains"</i><br>Attended a two month workshop on building acoustic models for speech recognition and automatic lexicon learning.  |

## WORK EXPERIENCE

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FEB 2013	Intern at Vistek ISRA Vision, Istanbul Worked on developing algorithms for artificial vision.
JUN - JULY 2008	Intern at iSEC-Siemens, Ankara Worked on enhancing models for communication networks.

## EDUCATION

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SEPT 2014 - Present	PhD Candidate in ELECTRICAL AND ELECTRONICS ENGINEERING <b>Swiss Federal Institute of Technology</b> , Lausanne Thesis title: "Video Quality Assessment using Deep Convolutional Neural Networks"   Advisor: Prof. Touradj EBRAHIMI Our goal is to construct an efficient objective quality assessment framework for video. We train deep convolutional neural networks to estimate the objective quality of distorted videos of different modalities and aim at a high correlation with subjective ratings.
SEPT 2010 - AUG 2013	Master of Science Degree in ELECTRICAL AND ELECTRONICS ENGINEERING <b>Bogazici University</b> , Istanbul Thesis: "Diffusion Tensor Field Deformations Under Active and Passive Stretching of Skeletal Muscles"   Advisors: Prof. Burak ACAR, Prof. A. Can YUCESoy By analyzing the diffusion statistics and strain distribution, we have confirmed the heterogeneous strain distribution along skeletal muscle fibers. GPA: 3.66/4.00
SEPT 2006 - JUNE 2010	Bachelor of Science Degree in ELECTRICAL AND ELECTRONICS ENGINEERING <b>Bogazici University</b> , Istanbul Senior project: "Optimization of Voxel Similarity Measures for Graph Theoretic Segmentation of Liver Lesions"   Advisor: Prof. Burak ACAR General training in electrical and electronics engineering with an emphasis on telecommunications, signal and image processing, biomedical image processing. GPA: 3.46/4.00
SEPT 2005 - MAY 2006	Bachelor student in ELECTRICAL AND ELECTRONICS ENGINEERING <b>Bilkent University</b> , Istanbul GPA: 3.79/4.00

## SKILLS

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Programming Languages:	Python, C++, MATLAB, C, Java
Open access platforms:	GitHub, Authorea, Jupyter
Circuit design:	MicroSim, PSpice, LabView, ModelSim, Xilinx

## LANGUAGES

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FULL WORKING PROFICIENCY:	<b>English (C2)</b>
LIMITED WORKING PROFICIENCY:	<b>French (B1), Italian (B1)</b>
MOTHER TONGUE:	<b>Turkish</b>

## INTERESTS AND ACTIVITIES

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Passionate about open science, social entrepreneurship, neuroscience and cognitive science  
Amateur pianist for eighteen years  
Love running, recently ran the 20km race in Lausanne

## PUBLICATIONS

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### JOURNAL ARTICLES

- Povey, Daniel, Lukás Burget, Mohit Agarwal, Pinar Akyazi, Feng Kai, Arnab Ghoshal, Ondrej Glembek et al. "The subspace Gaussian mixture model—A structured model for speech recognition." *Computer Speech & Language* 25, no. 2 (2011): 404-439.

### CONFERENCE PROCEEDINGS

- Akyazi, Pinar, and Pascal Frossard. "Graph-Based Inpainting for Zooming in 3D Scenes." In *26th European Signal Processing Conference (EUSIPCO)*, 2018.
- Tzamas, Olivier Eustathios, Dion, Pinar Akyazi, and Pascal Frossard. "A Novel Method for Sampling Bandlimited Graph Signals" In *26th European Signal Processing Conference (EUSIPCO)*, 2018.
- Akyazi, Pinar, and Touradj Ebrahimi. "Comparison of Comparison Efficiency between HEVC/H.264, VP9 and AV1 based on Subjective Quality Assessments." *10th International Conference on Quality of Multimedia Experience (QoMEX)*, 2018.
- Akyazi, Pinar, and Pascal Frossard. "Graph-Based Interpolation for Zooming in 3D Scenes." In *25th European Signal Processing Conference (EUSIPCO)*, no. EPFL-CONF-231394. 2017.
- Povey, Daniel, Lukás Burget, Mohit Agarwal, Pinar Akyazi, Kai Feng, Arnab Ghoshal, Ondrej Glembek et al. "Subspace Gaussian mixture models for speech recognition." In *Acoustics Speech and Signal Processing (ICASSP), 2010 IEEE International Conference on*, pp. 4330-4333. IEEE, 2010.
- Burget, Lukás, Petr Schwarz, Mohit Agarwal, Pinar Akyazi, Kai Feng, Arnab Ghoshal, Ondrej Glembek et al. "Multilingual acoustic modeling for speech recognition based on subspace Gaussian mixture models." In *Acoustics Speech and Signal Processing (ICASSP), 2010 IEEE International Conference on*, pp. 4334-4337. IEEE, 2010.
- Burget, Lukás, Petr Schwarz, Mohit Agarwal, Pinar Akyazi, Kai Feng, Arnab Ghoshal, Ondrej Glembek et al. "Multilingual acoustic modeling for speech recognition based on subspace Gaussian mixture models." In *Acoustics Speech and Signal Processing (ICASSP), 2010 IEEE International Conference on*, pp. 4334-4337. IEEE, 2010.
- Goel, Nagendra, Samuel Thomas, Mohit Agarwal, Pinar Akyazi, Lukás Burget, Kai Feng, Arnab Ghoshal et al. "Approaches to automatic lexicon learning with limited training examples." In *Acoustics Speech and Signal Processing (ICASSP), 2010 IEEE International Conference on*, pp. 5094-5097. IEEE, 2010.