

Serkan Sulun

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WORK EXPERIENCE

University of Porto, *Lecturer*

- Lecturer for the course, Introduction to Python

Aug. 2023 – Present
Porto, Portugal

INESC TEC, *Researcher*

- Enhancement of complex music signals using deep neural networks
- Automatic video-based symbolic music generation

Mar. 2019 – Present
Porto, Portugal

Koc University, *Research assistant*

- Video compression and frame prediction using deep neural networks

Sep. 2016 – Nov. 2018
Istanbul, Turkey

Koc University, *Teaching assistant*

- Preparing and leading laboratory sessions for the course, Introduction to MATLAB

Sep. 2016 – Nov. 2018
Istanbul, Turkey

Telfs Youth Center Studio, *Sound engineer*

- Recording and mixing music performed by local youngsters

Oct. 2014 – Aug. 2015
Telfs, Austria

Champalimaud Centre for the Unknown, *Intern*

- Processing neural signals and videos obtained by rat experiments
- Designing the controller board.
- Article acknowledgment: [DOI](#)

Jul. 2013 – Oct. 2013
Lisbon, Portugal

Sabanci University

- Peer lecturer on freshman mathematics, physics, chemistry, and biology

Jul. 2013 – Oct. 2013
Istanbul, Turkey

EDUCATION

University of Porto

PhD, Electrical and Computer Engineering

Present
Porto, Portugal

Koc University

MS, Electrical and Electronics Engineering (GPA: 3.81/4, converted to 19/20)

Nov. 2018
Istanbul, Turkey

Sabanci University

BS, Electronics Engineering (GPA: 3.86/4, converted to 20/20)

Jun. 2014
Istanbul, Turkey

PUBLICATIONS

Sulun, S., Oliveira, P., & Viana, P. (2023). Emotion4MIDI: A Lyrics-based Emotion-Labeled Symbolic Music Dataset. EPIA Conference on Artificial Intelligence. [arXiv](#) | [code](#)

Sulun, S., Davies, M. E. P., & Viana, P. (2022). Symbolic Music Generation Conditioned on Continuous-Valued Emotions. IEEE Access, 10, 44617–44626. [DOI](#) | [arXiv](#) | [code](#)

Sulun, S., & Tekalp, A. M. (2021). Can learned frame prediction compete with block motion compensation for video coding? Signal, Image and Video Processing, 15(2), 401–410. [DOI](#) | [arXiv](#) | [code](#)

Sulun, S., & Davies, M. E. (2020). On filter generalization for music bandwidth extension using deep neural networks. IEEE Journal of Selected Topics in Signal Processing, 15(1), 132–142. [DOI](#) | [arXiv](#) | [code](#)

Sulun, S. (2018). Deep Learned Frame Prediction for Video Compression, Master's Thesis. [arXiv](#) | [code](#)

AWARDS & FUNDING

Doctoral Fellowship, Portuguese Foundation for Science and Technology (FCT)
Doctoral Fellowship, la Caixa Foundation
Graduate Fellowship (Master's), Koc University
Excellence Merit Scholarship (Bachelor's), Education Foundation of Turkey
Excellence Merit Scholarship (Bachelor's), Sabanci University
Employment Scholarship, Sabanci University
Bachelors Scholarship, Prime Ministry of Turkey
Erasmus+ Exchange Grant, European Commission
Erasmus+ Internship Grant, European Commission
Ranked 9 out of 204,392 in the Turkish Academic Personnel and Graduate Education Exam
Ranked 297 out of 1,349,782 in Turkish University Entrance Exam

SKILLS

Deep learning: Pytorch, Tensorflow, generative models, transformers, adversarial learning, convolutional neural networks, recurrent neural networks

Programming: Python, MATLAB, C++, Julia

Signal processing: MIDI, audio, image, video, natural language processing; video compression, computer vision

Music production: Cubase, Protools, Audacity, MIDI

Miscellaneous: Machine learning, remote development, Git, LaTeX, Ubuntu, Windows

REVIEWER

International Society for Music Information Retrieval Conference (ISMIR)

Transactions of the International Society for Music Information Retrieval

IEEE Access

INVITED TALKS

Introduction to deep learning

Polytechnic Institute of Porto, Portugal

Deep learning for music generation

University of Porto, Portugal

Deep learning for music information retrieval

University of Porto, Portugal

INTERVIEWS

SIC Noticias: Portugal vai receber Turquia

[Website](#) | [Youtube](#)

Observador: Generating music from videos

[Portuguese original](#) | [English translation](#)

Olhar No Progresso: Deep learning, multimedia, and music

[Website](#) | [Youtube](#)

SUPERVISION

Pedro Miguel Pereira de Oliveira, Masters thesis: Emotion classification of MIDI lyrics using transformers

LANGUAGES

English (C2), Portuguese (B2), Turkish (native)