

Serkan Sulun

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PUBLICATIONS

Sulun, S., Viana, P., & Davies, M. E. P. (2024). VEMOCLAP - A video emotion classification web application. 2024 IEEE International Symposium on Multimedia (ISM). (**Accepted**) [PDF](#) | [demo](#)

Sulun, S., Viana, P., & Davies, M. E. P. (2024). Movie trailer genre classification using multimodal pretrained features. Expert Systems with Applications, 258, 125209. [DOI](#) | [arXiv](#) | [code](#)

Sulun, S., Oliveira, P., & Viana, P. (2023). Emotion4MIDI: A Lyrics-based Emotion-Labeled Symbolic Music Dataset. EPIA 2023. Lecture Notes in Computer Science, vol 14116. Springer. [DOI](#) | [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. P. (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, Masters Thesis. [arXiv](#) | [code](#)

WORK EXPERIENCE

University of Porto, Lecturer

- Lecturer for the course Programming with Python

Sep. 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

Catolica Porto Business School, Lecturer

- Lecturer for the course Python for Business Analytics

Mar. 2024 – Jul. 2024

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, Programming with 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

Feb. 2010 – Jun. 2014

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

AWARDS & FUNDING

Doctoral Fellowship, la Caixa Foundation

Doctoral Fellowship, Portuguese Foundation for Science and Technology (FCT)

Seed Projects Research Grant, INESC TEC

Student Symposium Award, EPIA Conference on Artificial Intelligence

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, cloud platforms (AWS, GCP, Azure)

Programming: Python, MATLAB, C++, Julia

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

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

Music: Drumming, Cubase, Protools, Audacity, MIDI

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

José Diogo Pereira Tender Dias, Video and MIDI processing using deep neural networks

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

LANGUAGES

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

ACTIVITIES

Finished in 04:20:05, in the 42 km Porto Marathon

Drummer, in Santa Cecilia Music School rock band