Serkan Sulun

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PUBLICATIONS

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. (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](#)

WORK EXPERIENCE

Catolica Porto Business School, *Lecturer*   **Mar. 2024 – Present**
- Lecturer for the course, Python for Business Analytics   *Porto, Portugal*

University of Porto, *Lecturer*   **Sep. 2023 – Feb. 2024**
- Lecturer for the course, Programming with Python   *Porto, Portugal*

INESC TEC, *Researcher*   **Mar. 2019 – Present**
- Enhancement of complex music signals using deep neural networks   *Porto, Portugal*
- Automatic video-based symbolic music generation

Koc University, *Research assistant*   **Sep. 2016 – Nov. 2018**
- Video compression and frame prediction using deep neural networks   *Istanbul, Turkey*

Koc University, *Teaching assistant*   **Sep. 2016 – Nov. 2018**
- Preparing and leading laboratory sessions for the course, Programming with MATLAB   *Istanbul, Turkey*

Telfs Youth Center Studio, *Sound engineer*   **Oct. 2014 – Aug. 2015**
- Recording and mixing music performed by local youngsters   *Telfs, Austria*

Champalimaud Centre for the Unknown, *Intern*   **Jul. 2013 – Oct. 2013**
- Processing neural signals and videos obtained by rat experiments   *Lisbon, Portugal*
- Designing the controller board.
- Article acknowledgment: [DOI](#)

Sabanci University   **Jul. 2013 – Oct. 2013**
- Peer lecturer on freshman mathematics, physics, chemistry, and biology   *Istanbul, Turkey*

EDUCATION

University of Porto   **Present**
PhD, Electrical and Computer Engineering   *Porto, Portugal*

Koc University   **Nov. 2018**
MS, Electrical and Electronics Engineering (GPA**:** 3.81/4, converted to 19/20)   *Istanbul, Turkey*

Sabanci University   **Jun. 2014**
BS, Electronics Engineering (GPA**:** 3.86/4, converted to 20/20)   *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
Finished in 04:20:05, in Porto Marathon 42 km

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: Drumming, ukulele, 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

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)