

CONTACT

📍 Porto, Portugal
✉ serkan.sulun@inesctec.pt
🌐 github.com/serkansulun

SERKAN SULUN

DEEP LEARNING RESEARCHER

EDUCATION

DOCTORATE

Electrical and Computer Engineering

University of Porto
2019 - Present

MASTERS

Electrical and Electronics Engineering

Koc University
2016 - 2018
GPA: 3.81

BACHELORS

Electronics Engineering

Sabanci University
2009 - 2014
GPA: 3.86

SKILLS

Deep learning

Pytorch | Tensorflow | Generative Networks
Adversarial Learning | Recurrent Neural Networks
Convolutional Neural Networks | Transformers

Programming

Python | MATLAB | C++ | Julia

Signal processing

MIDI processing | Audio processing | Image processing
Video processing | Video compression | Computer vision

Music production

Cubase | Protools | Audacity | Music21 | MIDI

Miscellaneous

Remote development | Machine learning | Git | LaTeX
Ubuntu | Windows

LANGUAGES

- English | *Fluent*
- Turkish | *Fluent*
- Portuguese | *Intermediate*
- German | *Beginner*

SUMMARY

I use deep neural networks on music and video.

EXPERIENCE

RESEARCHER

INESC TEC, Portugal | Mar 2019 - Present

Enhancement of complex music signals using deep neural networks

Video-based symbolic music generation

RESEARCH ASSISTANT

Koc University, Turkey | Sep 2016 - Nov 2018 (2 years 2 months)

Video compression and frame prediction using deep neural networks, including generative adversarial networks

TEACHING ASSISTANT

Koc University, Turkey | Sep 2016 - Nov 2018 (2 years 2 months)

Leading laboratory sessions and occasionally lectures on programming with MATLAB

SOUND ENGINEER

Telfs Youth Center Studio, Austria | Oct 2014 - Aug 2015 (11 months)

Recording and mixing music performed by local youngsters

INTERN

Champalimaud Neuroscience Program, Portugal | Jul 2013 - Oct 2013 (3 months)

Processing neural signals and videos obtained by rat experiments, designing the controller board. Article acknowledgement: [ncbi.nlm.nih.gov/pmc/articles/PMC4721960](https://pubmed.ncbi.nlm.nih.gov/pmc/articles/PMC4721960)

PEER INSTRUCTOR

Sabanci University, Turkey | Feb 2010 - Jun 2014 (4 years 3 months)

Lecturing in small study groups and occasionally in amphitheatres on freshman chemistry and biology

PUBLICATIONS

SYMBOLIC MUSIC GENERATION CONDITIONED ON CONTINUOUS-VALUED EMOTIONS (2022)

IEEE Access

DOI:10.1109/ACCESS.2022.3169744 | [arXiv:2203.16165](https://arxiv.org/abs/2203.16165)

ON FILTER GENERALIZATION FOR MUSIC BANDWIDTH EXTENSION USING DEEP NEURAL NETWORKS (2021)

IEEE Journal of Selected Topics in Signal Processing

DOI:10.1109/JSTSP.2020.3037485 | [arXiv:2011.07274](https://arxiv.org/abs/2011.07274)

CAN LEARNED FRAME-PREDICTION COMPETE WITH BLOCK-MOTION COMPENSATION FOR VIDEO CODING? (2021)

Signal, Image and Video Processing

DOI:10.1007/s11760-020-01751-y | [arXiv:2007.08922](https://arxiv.org/abs/2007.08922)

DEEP LEARNED FRAME PREDICTION FOR VIDEO COMPRESSION (2018)

Koc University, Masters Thesis

Thesis:531218 | [arXiv:1811.10946](https://arxiv.org/abs/1811.10946)

A W A R D S

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

I N T E R V I E W S

SIC NOTÍCIAS (2022)

Portugal vai receber Turquia: 2.500 adeptos turcos vão estar no Estádio do Dragão

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

OBSERVADOR (2020)

Generating music from videos

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

OLHAR NO PROGRESSO (2021)

Deep learning, multimedia and music

[Newspaper website](#) | [YouTube](#)

R E V I E W E R

- International Society for Music Information Retrieval Conference
- Transactions of the International Society for Music Information Retrieval
- IEEE Access

T E A C H I N G E X P E R I E N C E

- **Introduction to deep learning (invited talk)** | Polytechnic Institute of Porto, Portugal
- **Deep learning for music generation (invited talk)** | University of Porto, Portugal
- **Deep learning for music information retrieval (invited talk)** | University of Porto, Portugal
- **Introduction to MATLAB** | Koc University, Turkey
- **Freshman mathematics, physics, chemistry and biology (peer teacher)** | Sabanci University, Turkey

S U P E R V I S I O N

PEDRO MIGUEL PEREIRA DE OLIVEIRA

Emotion classification of MIDI lyrics using transformers (Masters thesis, 2022)