



SILAS ANTONISEN

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TECH STACK

Music Information Retrieval
Singing Voice Synthesis
Automatic Lyrics Transcription
Automatic Lyrics Translation
Natural Language Processing
Computational Linguistics
Machine Learning
Neural Networks
Large Language Models
Signal Processing
Data Science
Human-Computer Interaction
Computer Vision
Computer Graphics
Virtual Reality
Robotics
PyTorch
Tensorflow
HuggingFace
Python
LUA
C#
C++
Linux
GitHub

LANGUAGES

Danish: Native

English: Fluent

Spanish: Beginner

Japanese: Beginner

ABOUT ME

I am a 26-year-old academic researcher and PhD student at the University of Granada (UGR) in Spain. My work at UGR is centered around music information retrieval (MIR) in which my main areas of research are automatic lyrics transcription, automatic lyrics translation and singing voice synthesis (SVS). My ambition with my current work is to create a system which can allow a singer to sing in languages they do not speak, through what I call singing-voice to singing-voice translation (SV2SVT). In 2024 I started a PhD degree at UGR specializing in MIR, signal processing and natural language processing. I hold a Master's degree in Engineering from Aalborg University (AAU) in Denmark, where I specialized in applied machine learning for a wide variety of fields, ranging from path finding and virtual reality, to style transfer and multi-object tracking. Throughout the past two years, I caught a keen interest in applying machine learning to the singing voice, and wrote my MSc thesis on the subject. Furthermore, during my work at UGR I have published a SV2SVT article in ISMIR 2024, and I am currently researching the possibility of automatically annotating singing voices for the creation of SVS voice-banks.

EDUCATION

University of Granada | Doctor of Philosophy (PhD) in Engineering (Information and Communication Technologies)

2024 - Now

Granada, Spain

Aalborg University | MASTER OF SCIENCE (MSc) IN ENGINEERING (VISION, GRAPHICS AND INTERACTIVE SYSTEMS)

2021 - 2024

Aalborg, Denmark

My Projects

- **MSc Thesis:** Cross-Lingual Singing-Voice-to-Singing-Voice Translation
- **3rd Semester:** DeepMOTCOM: Estimating Multi-Object Tracking Dataset Complexity Metrics with 3D CNNs
- **2nd Semester:** Semantic Linear Regression for the Estimation and Application of a Photographic Editing Style
- **1st Semester:** Intuitive Sculpting of Environments in Mixed Reality

Aalborg University | BACHELOR OF SCIENCE (BSc) IN ENGINEERING (ROBOTICS)

2018 - 2021

Aalborg, Denmark

My Projects

- **BSc Project:** Image-Based Defect Detection in Salmon Fillets
- **5th Semester:** Autonomous Parking of Vehicles

- **4th Semester:** Firefighting Search And Rescue Robots
- **3rd Semester:** Robotic Prosthesis Design for Trans-humeral Amputees
- **2nd Semester:** EMG Controlled Robotic Arm
- **1st Semester:** Cliff Detection for Mars Rovers

SUPPLEMENTARY EDUCATION

LxMLS 2024: The 14th Lisbon Machine Learning School

📅 July 11 2024 - July 17 2024

📍 Lisbon, Portugal

The school covers a range of machine learning topics, from theory to practice, that are important in solving natural language processing problems arising in different application areas. This year's school will sequentially give an introduction to linear models, neural networks, deep learning, pytorch, sequence models, transformers, large pre-trained models, vision, language and causality.

WORK EXPERIENCE

University of Granada | Research member of the Signal Processing, Multimedia Transmission and Speech/Audio Technologies (SigMAT) group

📅 March 2024 - Now

📍 Granada, Spain

- Singing-voice to singing-voice translation (SV2SVT)
 - Automatic lyrics transcription
 - Lyrics alignment
 - Vocal melody extraction
 - Automatic lyrics translation
 - Computational Japanese linguistics
 - Cross-lingual singing voice synthesis

MacArtney | Employee

📅 April 2018 - August 2018

📍 Esbjerg, Denmark

- Inventory management
- Warehouse maintenance
- Packaging and shipment
- Customer service

Rema 1000 | Employee

📅 July 2014 - December 2016

📍 Esbjerg, Denmark

- Cashier
- Customer Service
- Inventory management
- Cleaning

PUBLICATIONS

- **Silas Antonisen** and Iván López-Espejo, "PolySinger: Singing-Voice to Singing-Voice Translation from English to Japanese", *In Proc. of The 25th International Society for Music Information Retrieval (ISMIR) Conference, November 10–14, 2024 in San Francisco, CA, US*