



# SILAS ANTONISEN

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Granada, Spain

## TECH STACK

Music Information Retrieval

Computational Linguistics

Singing Voice Synthesis

Automatic Lyrics Transcription

Automatic Lyrics Translation

Machine Learning

Neural Networks

Large Language Models

Computer Vision

Computer Graphics

Virtual Reality

Robotics

Signal Processing

Data Science

Human-Computer Interaction

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 researchr and PhD student at the University of Granada (UGR) in Spain. My work at UGR is centered around music information retrieval (MIR) and computational linguistics, in which my main areas of research are automatic lyrics transcription, automatic lyrics translation and singing voice synthesis. 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 PhD degree at UGR specializing in MIR, signal processing and synthesis of the human voice. I hold a Master's degree in Engineering from Aalborg Univeristy (AAU) in Denmark, where I specialized in applied machine learning for a wide variety of fields, ranging from path finding and virtual reality, to image editing 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 submitted a paper on SV2SVT to ISMIR 2024, and I am currently working on a journal paper on automatic lyrics transcription.

## EDUCATION

University of Granada | Doctor of Philosophy (PhD) in Engineering (Telecommunications)

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

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### 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

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### 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

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- **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*