Emmanouil Theofanis **Chourdakis**

PhD Candidate of Computer Science – Artificial Intelligence / Machine Learning

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Summary

A **PhD Candidate** at **Queen Mary University of London** who successfully defended on April 1st, 2020 and will be awarded a Doctor's degree once requested amendments are submitted and accepted. Five years of coding experience in academia, and more as a hobbyist. Interested in moving to industry and currently searching for an AI/ML related position.

Skills

Computer Languages Python, Matlab, R, C, C++, Javascript.
Libraries NumPy, Pandas, Scikit-Learn, Keras (Tensorflow), Pytorch, XGBoost, SpaCy, NLTK.
Misc Linux, Git, Docker, Anaconda, LaTeX.
Human Languages English (TOEFL, 6+ years in London), Greek (native language).

Industry Experience

BBC Audio R&D *London, UK*

Intern *Dec. 2018 - Apr. 2019*

- Developed adaptive audio effects as Web Audio Worklets using Javascript and the Web Audio API for use in an internally developed storyboard system. Developed a variety of scripts that allows rapid prototyping of such effects.
- Developed a Flask-based API for Music Information Retrieval (MIR) using Docker and the Essentia MIR library that did audio content analysis using deep learning to control the aforementioned effects.
- Implemented an object mixing method for hard of hearing listeners as a plugin for VST hosts, as well as Avid Pro Tools using Faust, C++, and Juce.
- Published a peer-reviewed paper on using probabilistic programming and machine learning to automate the mixing process of the above object-based effect.
- Wrote extensive internal guides for building audio effects for the web as well as VST and AAX plugins.

Education

Queen Mary University of London *London, UK*

PhD in Computer Science (Successfully defended – Pending corrections) *April 2020*

- Thesis titled "Computational Methods for Assisting Radio Drama Production".
- Use of Artificial Intelligence to assist an aspiring radio drama team in producing radio drama.
- Heavily based around Natural Language Processing techniques, and Information Retrieval.

Queen Mary University of London *London, UK*

MSc in Digital Music Processing (Graduated with distinction – 80/100) *September 2014*

- Thesis project used Machine Learning to understand a song track's audio with the goal to control an audio effect for applying reverberation.
- 2014 Michael Clark Prize for Best Electronic Engineering Project

Technical University of Crete *Chania, Greece*

Electronic and Computer Engineering Diploma (Graduated with mark "Very Good" – 7.46/10) *July 2011*

- Thesis project used inductive logic programming to learn musical composition rules from examples to compose similar ones.

Recent Github/Kaggle/Google Play work samples

Genre-Recognition A Music Genre Classifier using transfer learning developed with MusiCNN, XGBoost, and Docker.
Audio-Dafx2019-Automatic Classification of raw audio to Speech, Music, or Sound Effects using Keras.
Modelling of mixing decisions of engineers when mixing for hard-of-hearing listeners.
Spacy-Clausie A rule-based text information extraction system implemented in SpaCy with bindings for Problog.
MiniePY Python bindings for the MinIE information extraction system.
SpRL-SpaCy A library for Spatial Role Labelling using SpaCy.
PyopenAL-HRTF HRTF extensions for the Python OpenAL bindings.
SimScene.py Python library and tool for hierarchical construction of acoustical scenes.
Smooth-Convex-KL-NMF Python library for minibatched NMF with sparsity and smoothness constraints.
CharacterAwareNeuralModels A tutorial for step-by-step implementation of Char-LSTM-CNNs in Keras.
Kaggle Connect X A NegaMax Kaggle Kernel with $\alpha\beta$-pruning and memoization.
20 Candles A touchscreen-based puzzle game for Android with procedural level generation written in Godot.
Other Various contributions to open source software (please ask).