

Richhiej Thomas



about

richhiej.github.io

richhiej

richhiej

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software skills

Python Numpy

Pandas Librosa

Tensorflow Keras

Scikit-learn Django

SQL Docker Git

Linux

coursework

Deep learning

Generative models

interests

Web development

Artificial Intelligence

hobbies

Playing piano

Hiking

education

- 2018–2021 **M.Sc. in Data and Knowledge Engineering** Magdeburg, Germany
Otto-von-Guericke-Universität, Fakultät für Informatik
- 2013–2017 **B.Eng. in Computer Engineering** Mumbai, India
University of Mumbai, Fr. Conceicao Rodrigues College of Engineering

experience

- 2019-2021 **Student Research Assistant** Magdeburg, Germany
Institute for Intelligent Cooperating Systems, OVGU
 - Assisted under the AILab to explore and implement use cases of deep learning models in music synthesis and participated in applied research challenges.
 - Developed an LSTM-based automatic music generation system capable of generating valid Irish jig compositions in a specific style, given a set of tunes in that style.
 - Created a minimal web interface using React to explore interaction workflows for computer-assisted music composition. It enabled a user to compose melodies by plugging pre-trained models into a virtual instrument for interactive generation.
- 2017-2018 **Software Developer** Mumbai, India
Mirraw Online Services Pvt. Ltd.
 - Worked as a full-stack developer in an agile team to build user-facing features for desktop and mobile version of the Mirraw online store, a fashion e-commerce startup.
 - Supported internal teams to optimize processes by providing store customization options and metric visualization dashboards for testing marketing ideas.
- 04-09 2016 **Summer Intern** Remote
Google Summer of Code 2016 with Xapian
 - Successfully completed implementation of a C++ API for K-Means clustering of text documents within Xapian, an open source search engine library.

relevant projects

- 2020-2021 **AI Song Contest**
 - Independently explored the use of machine learning in music composition and the song-writing process. Wrote a song using a custom built interactive composition tool and documented the creative process. The song and process documents were then evaluated through a jury and public vote in the 2020 contest.
 - Participated in the 2021 edition as a team with a more diverse toolkit consisting of text, audio and music generation models. After the jury and public vote, we ranked 26th out of 38 teams from around the world.
- 06-12 2019 **ISMIR Paper Explorer**
 - Restructured backend modules of the previous system to introduce data pre-processing and model training pipelines for NLP within the ISMIR explorer, a visual interface to search through MIR research papers.
 - Trained Doc2Vec for document ranking and integrated model predictions into the interface. Dockerized the django webapp for deployment and created project wiki.
 - This was a team effort under Prof. Sebastian Stober. The explorer was displayed on the ISMIR 2020 website.