

JIAYING LI

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EDUCATION

Master of Science in Music Technology (GPA: 3.75/4.0) Jan 2022 - Dec 2023

Georgia Institute of Technology Atlanta, USA

Courses: Digital Audio Processing for Music, Digital Speech Signal Processing, Statistical Machine Learning, Machine Learning, Fourier Techniques&Signal Analysis, Music Perception&Cognition, Cognitive Science, etc.

Bachelor of Science in Electrical Information Engineering (GPA: 3.26/4.0) Sept 2017 - May 2021

Minor in Philosophy (GPA: 3.6/4.0) Sept 2018 - May 2021

The Chinese University of Hong Kong, Shenzhen Guangdong, China

Courses: Basic Macroeconomics, Statistics, Linear Algebra, Optimization, Data Structures, Analog Integrated Circuits, Microprocessors&Computer Systems, Multimedia Coding&Networking, etc.

PUBLICATION & CONFERENCE

•J. Li and N Condit-Schultz, “Four Chords Go a Long Way: Measuring Chord Progression Similarity in Chinese Popular Music”, 2022 Society for Music Perception and Cognition (SMPC), poster session.

•K. Xue, Z. Liu, J. Li, X. Ji and H. Qian, “SongBot: An Interactive Music Generation Robotic System for Non-Musicians Learning from A Song”, 2021 IEEE International Conference on Real-time Computing and Robotics (RCAR)

RESEARCH & PROJECTS

Audio Technology II Interaction Website Jan 2023 - May 2023

Research Assistant, Computational and Cognitive Musicology Lab Atlanta, USA

•Developed an interactive website utilizing JavaScript, HTML, and CSS to illustrate and visualize Digital Signal Processing (DSP) concepts effectively.

•Authored coding practice exercises tailored to beginners for MUSI 2526 (Introduction to Audio Technology II).

Singing Voice Conversion based on Target Waveform Mapping Sept 2022 - Apr 2023

Computational and Cognitive Musicology Lab, Georgia Institute of Technology Atlanta, USA

•Collected and curated a data set of 270-minute singing voice dataset, including 20 different songs sung by 3 different singers.

•Cut the singing voice frames manually and use the LSTM model to implement the wav2wav singing voice conversion.

Perceptual Harmonic Similarity Adapted to Human Ear Jan 2022 - Nov 2022

Computational and Cognitive Musicology Lab, Georgia Institute of Technology Atlanta, USA

•Collected and curated a data set of harmonic progressions in Chinese Pop music.

•Developed the Chord Progression Similarity Index (CPSI), a Markov-chain-based objective metric for chord progression similarity, and wrote JavaScript experimental interface.

•Conducted a human-subject psychology experiment to evaluate the CPSI and analyzed the results by using DBSCAN Model.

Kaggle - Lyft Motion Prediction for Autonomous Vehicles Sept 2020 - Nov 2020

Rank Top 15%

- Cleaned and filtered a complex dataset of various driving records use Python
- Analyzed the data and used the Resnet34 model to predict the motion of autonomous vehicles

Facial Beauty

Apr 2019 - Mar 2020

Research Assistant, Shenzhen Institute of Artificial Intelligence and Robotics for Society

Guangdong, China

- Assisted the project team and collected a human face database with over 4,900 samples.
- Extracted linear features of human faces using the VGG16 model.
- Designed a system to predict the facial beauty degree by using the XGboost model.

Coursework Projects

Jan 2022 - Dec 2022

- CS 7641 Machine Learning Project: Autotrader (Python)
- ECE 6254 Statistical Machine Learning: Intrusion Detection System Using Machine Learning (Python)
- ECE 6255 Digit Speech Signal Processing: Arbitrary Modification of Speech Characteristics in Segmental Durations (MATLAB)
- MUSI 6004 Technology Ensemble: Painting Instrument (Python)
- MUSI 6203 Project Studio - Music Tech: Musical Cube (Python)

INTERNSHIP

User Experience Research Product Engineer Intern

Aug 2021 - Dec 2021

SZ DJI Technology CO., LTD.

Guangdong, China

- Conducted perceptual experiments to improve user experience in DJI Avata and DJI Goggles 2.
- Conducted ergonomics experiments to improve the design of DJI Goggles mask's shape and weight
- Analyzed optical data and optimized the qualifying range for the products.
- Applied and obtained a patent for head-mounted mask design.

Music Entertainment Operations Intern

Sept 2020 - Mar 2021

Kuwo Music, Tencent Music Entertainment

Guangdong, China

- Collected and curated click-through rate data on the Tencent website using Python and complete the database.
- Analyzed and predicted user preferences using XGBoost Model.
- Completed the fourth quarter product planning report and a sixteen-page competitive product analysis report.

SKILLS

Programming	Python, C, C++, Java, JavaScript, R, MATLAB, HTML, CSS
Frameworks	SciPy, Tensorflow, Pytorch, MXNET, Keras, TensorBoard
Models	CNN, LSTM, SVM, GMM, RNN, GAN, VAE
Tools	Microsoft Office, Adobe Premiere, Photoshop, Logic Pro, MAX, XMind, Axure