

ABOUT ME

| | |
|----------|---|
| Research | Generative Models, Neural Data Compression, MultiMedia, Representation Learning |
| Email | ruihan.yang@uci.edu |
| Website | https://buggyyang.github.io |

EDUCATION

| | |
|-----------------------------------|-----------------|
| University of California, Irvine | 2019/09-now |
| PHD IN COMPUTER SCIENCE | |
| NYU Shanghai, New York University | 2014/09-2018/05 |
| B.S. IN COMPUTER SCIENCE | |

RESEARCH EXPERIENCE

| | |
|---|-----------------|
| Research Intern <i>Microsoft Research, Microsoft, Redmond</i> <ul style="list-style-type: none">• Research Group: Audio and Acoustic Research.• Lead generative modeling projects for audio and video synthesis using multi-modal diffusion models. Drive research efforts towards publication, enhancing the group's profile in audio-visual technology innovation. | 2023/06-2023/09 |
| Research Intern <i>Qualcomm AI Research, Qualcomm, San Diego</i> <ul style="list-style-type: none">• Research Group: Neural Compression.• Led the development and coding of a pioneering project on variable bitrate neural video compression. Innovated adaptive video compression techniques, contributing to advancements in efficient data encoding. | 2021/06-2021/09 |
| Research Associate <i>Computer Science, NYU Shanghai</i> <ul style="list-style-type: none">• Research: Neural Music Modeling/Generation.• Two papers were accepted as the lead author and one paper as co-author. Papers were accepted by ISMIR and NIME conferences. | 2018/01-2019/07 |
| Affiliated Research Assistant <i>Computational Material Science, NYU Shanghai</i> <ul style="list-style-type: none">• Research: Applied Machine Learning & Scientific Computing.• Two co-authored papers were accepted by Nature Communications and Journal of Physics: Condensed Matter. | 2017/09-2019/07 |
| PAPERS (INCLUDING PREPRINTS) | |
| CMMD: Contrastive Multi-Modal Diffusion for Video-Audio Conditional Modeling <i>Ruihan Yang, Hannes Gamper and Sebastian Braun</i> arXiv, 2023 | |
| Probabilistic Precipitation Downscaling with Optical Flow-Guided Diffusion <i>Prakhar Srivastava, Ruihan Yang, Gavin Kerrigan, Gideon Dresdner, Jeremy McGibbon, Christopher Bretherton and Stephan Mandt</i> arXiv, 2023 | |
| Lossy Image Compression with Conditional Diffusion Model <i>Ruihan Yang and Stephan Mandt</i> NeurIPS, 2023 | |
| SC2 Benchmark: Supervised Compression for Split Computing <i>Yoshitomo Matsubara, Ruihan Yang, Marco Levorato and Stephan Mandt</i> Transactions on Machine Learning Research 2023 | |
| Insights from Generative Modeling for Neural Video Compression <i>Ruihan Yang, Yibo Yang, Joe Marino and Stephan Mandt</i> Transactions on Pattern Analysis and Machine Intelligence 2023 | |
| Diffusion Probabilistic Modeling for Video Generation <i>Ruihan Yang, Prakhar Srivastava and Stephan Mandt</i> Entropy 2023 | |
| Supervised Compression for Resource-Constrained Edge Computing Systems <i>Yoshitomo Matsubara, Ruihan Yang, Marco Levorato and Stephan Mandt</i> WACV 2022 | |
| Hierarchical Autoregressive Modeling for Neural Video Compression <i>Ruihan Yang, Yibo Yang, Joe Marino and Stephan Mandt</i> ICLR 2021 | |
| PIANOTREE VAE: Structured Representation Learning for Polyphonic Music | |

Ziyu Wang, Yiyi Zhang, Yixiao Zhang, Junyan Jiang, **Ruihan Yang**, Junbo Zhao and Gus Xia
ISMIR 2020

Deep Music Analogy Via Latent Representation Disentanglement

Ruihan Yang, Dingsu Wang, Ziyu Wang, Tianyao Chen, Junyan Jiang and Gus Xia
ISMIR 2019

Inspecting and Interacting with Meaningful Music Representations using VAE

Ruihan Yang, Tianyao Chen, Yiyi Zhang and Gus Xia
NIME 2019

The complex non-collinear magnetic orderings in Ba_2YO_6 : A new approach to tuning spin-lattice interactions and controlling magnetic orderings in frustrated complex oxides

Yue-wen Fang, **Ruihan Yang** and Hanghui Chen
Journal of Physics: Condensed Matter

A large modulation of electron-phonon coupling and an emergent superconducting dome in doped strong ferroelectrics

Jiaji Ma, **Ruihan Yang**, and Hanghui Chen
Nature Communications