**Pay Attention To:**

* File format: What and how it was encoded/decoded
  + Is pitch/rhythm processed separately?
* Topics of Interest: Predicting completely new sequences, musical inpainting (filling in the middle of two sequences)

**Paper Reviews - April 1, 2021**

|  |  |  |
| --- | --- | --- |
| **Paper** | **Reviewer** | **Notes** |
| [1] Magenta, magenta/magenta. Magenta. |  |  |
| [2] A. Pati, ashispati/InpaintNet. 2021.  [2] A. Pati, A. Lerch, and G. Hadjeres, “Learning to Traverse Latent Spaces for Musical Score Inpainting,” *arXiv:1907.01164 [cs, eess, stat]*, Jul. 2019, Accessed: Apr. 01, 2021. [Online]. Available:<http://arxiv.org/abs/1907.01164>. | Alison |  |
| [3] B. Genchel, *bgenchel/Reinforcement-Learning-for-Music-Generation*. 2021. |  |  |
| [4] L.-C. Yang and A. Lerch, “On the evaluation of generative models in music,” Neural Comput & Applic, vol. 32, no. 9, pp. 4773–4784, May 2020, doi: 10.1007/s00521-018-3849-7. |  |  |
| [5] R. Vidiyala, “Music Generation Through Deep Neural Networks,” Medium, Oct. 21, 2020. https://towardsdatascience.com/music-generation-through-deep-neural-networks-21d7bd81496e (accessed Mar. 21, 2021). | **Bowen** |  |
| [6] S. Verch, “I Made an AI that Learned to Make Music,” Able, May 28, 2020. https://able.bio/GalacticGlum/i-made-an-ai-that-learned-to-make-music--620lxbn (accessed Mar. 21, 2021). |  |  |
| [7] H. Patel, “Music Generation using Deep Learning,” Medium, Aug. 26, 2020. https://medium.com/@harsh2000.hp/music-generation-using-deep-learning-59159b95fe68 (accessed Mar. 21, 2021). | **Bowen** |  |
| [8] J.-P. Briot, G. Hadjeres, and F.-D. Pachet, Deep Learning Techniques for Music Generation. Cham: Springer International Publishing, 2020. |  |  |
| [9] B. Genchel, A. Pati, and A. Lerch, “Explicitly Conditioned Melody Generation: A Case Study with Interdependent RNNs,” arXiv:1907.05208 [cs, eess], Jul. 2019, Accessed: Mar. 21, 2021. [Online]. Available: http://arxiv.org/abs/1907.05208. |  |  |
| [10] A. Pati, Neural Style Transfer for Musical Melodies. 2018. |  |  |
| [11] S. Oore, I. Simon, S. Dieleman, D. Eck, and K. Simonyan, “This Time with Feeling: Learning Expressive Musical Performance,” arXiv:1808.03715 [cs, eess], Aug. 2018, Accessed: Mar. 21, 2021. [Online]. Available: http://arxiv.org/abs/1808.03715. |  |  |
| [12] C.-Z. A. Huang et al., “Music Transformer,” arXiv:1809.04281 [cs, eess, stat], Dec. 2018, Accessed: Mar. 21, 2021. [Online]. Available: http://arxiv.org/abs/1809.04281. | **Yufei** |  |
| [13] D. Ghosal and M. H. Kolekar, “Music Genre Recognition Using Deep Neural Networks and Transfer Learning,” in Interspeech 2018, Sep. 2018, pp. 2087–2091, doi: 10.21437/Interspeech.2018-2045. |  |  |
| [14] A. Huang and R. Wu, “Deep Learning for Music,” arXiv:1606.04930 [cs], Jun. 2016, Accessed: Mar. 21, 2021. [Online]. Available: http://arxiv.org/abs/1606.04930. | **Iman** |  |

**Dataset Checklist: - March 25 2021**

* Monophonic melodies
* If data is MIDI:
  + Plot MIDI file length distribution
  + What MIDI information can be learned
* If data is not MIDI: e.g. .abc
  + Plot sequence length distribution
  + Does the dataset parse pitch/rhythm data separately? How do they do this, how do we interpret this?
  + What other metadata is provided, e.g. tempo?
* What kinds of preprocessing might be necessary? How do other papers deal with this?
* Plot class distribution
* How many datapoints are there?

**List of Datasets:**

* <http://ismir.net/resources/datasets/>
* <https://www.audiocontentanalysis.org/data-sets/>

**Datasets:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Datasets** | | **Comments** | **Sanity Check** | **Team Member** |
| **Medley-solos-DB** | <https://zenodo.org/record/1344103#.YFzIdkhKg8M> |  |  | Iman |
| **Henrik Norbeck’s ABC Tunes:** | <http://www.norbeck.nu/abc/> |  |  | Alison |
| **The Meerten Tune Collections** | <http://www.liederenbank.nl/mtc/>  Size: 360-18000 melodies | MIDI, Melodies, folk songs, lyrics |  | Yufei |
| **MusicNet** | <https://homes.cs.washington.edu/~thickstn/start.html>  Size: 330 songs | A note’s position in the metrical structure of a composition |  | Yilun |

**Datasets - Archive:**

|  |  |  |
| --- | --- | --- |
| **Datasets** | | **Comments** |
| **Medley-solos-DB** | <https://zenodo.org/record/1344103#.YFzIdkhKg8M> |  |
| **Henrik Norbeck’s ABC Tunes:** |  |  |
| **The Meerten Tune Collections** | <http://www.liederenbank.nl/mtc/>  Size: 360-18000 melodies | MIDI, Melodies, folk songs, lyrics |
| **MusicNet** | <https://homes.cs.washington.edu/~thickstn/start.html>  Size: 330 songs | A note’s position in the metrical structure of a composition |
| **LAKH** | <https://colinraffel.com/projects/lmd/>   * Specifically, LPD (Lakh Piano Roll Dataset) has 174,154 pianorolls | * Pairable with Million Song Dataset which has available audio features, ground truth (genre, tags, lyrics)   + E.g. <http://millionsongdataset.com/musixmatch/> |
| **UMA-Piano** | <http://extras.springer.com/2013/978-1-4614-7475-3>  Size: 275040 recordings | Piano chords |
| **MAESTRO** | <https://magenta.tensorflow.org/datasets/maestro#v300> | 172 hours of virtuosic piano performance with fine alignment (~3ms) between note labels and audio waveforms |
| **Groove2Groove** | <https://zenodo.org/record/3958000#.YFJazkhKg8M>  Size: approx 8144 songs in almost 3000 styles | Drum timing, synthetic accompaniment in 3k styles |
| **SALAMI** | <https://ddmal.music.mcgill.ca/research/SALAMI/annotation/>  Size: approx 1500 songs | Form/structural annotations (e.g. chorus, bridge) |
| **McGill Billboard Project (SALAMI with chord annotations)** | <https://ddmal.music.mcgill.ca/research/The_McGill_Billboard_Project_(Chord_Analysis_Dataset)/> |  |
| **DALI** | <https://github.com/gabolsgabs/DALI>  Size: 105 songs | Synchronised Audio, LyrIcs and vocal notes. |
| **WASABI** | <https://github.com/micbuffa/WasabiDataset>  Size: 1.73M songs | Music metadata (social tags, emotion tags), lyrics analysis, named entities, linked data |
| **Annotated Beethoven Corpus (ABC)** | <https://archive.ics.uci.edu/ml/datasets/Bach+Choral+Harmony> | Expert harmonic analyses of all Beethoven string quartets |
| **TAVERN** | <https://archive.ics.uci.edu/ml/datasets/Bach+Choral+Harmony> |  |

* Couldn’t find the following datasets:
  + “Muse-All” piano roll dataset
  + FolkDB and BebopDB