**RESEARCH LOG**

11/8/19

* ISMR conference AMT code examples
  + Found Sonic Visualiser and Vamp Plugins
  + Chordino chord estimator – tried it out on a Bill Evans recording
* MiReX
* Cleaned up annotated references

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* No work completed

13/8/19

* Try out more open source software
  + Search Vamp plugins
* Research sound wave fundamentals
  + ANU library resources – ANU SuperSearch through reverse proxy. Great for citations
  + Google Scholar is a great search engine
* Automatic chord estimation is an interesting subtopic in the field
  + ANU SuperSearch : Automatic Chord Estimation
* Cleaned up AMT tutorial notes
* Researched best performing MPE methods

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* Reading article on future challenges – [ E. Benetos, S. Dixon, D. Giannoulis, H. Kirchhoff, and A. Klapuri, “Automatic music transcription: Challenges and future directions,” J. Intelligent Inform. Syst., vol. 41, no. 3, pp. 407–434, 2013 ]
* MiReX 2018 results
* <https://www.music-ir.org/mirex/wiki/2018:MIREX2018_Results>

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* Finished article on future challenges – [ E. Benetos, S. Dixon, D. Giannoulis, H. Kirchhoff, and A. Klapuri, “Automatic music transcription: Challenges and future directions,” J. Intelligent Inform. Syst., vol. 41, no. 3, pp. 407–434, 2013 ]
* Search Automatic Music Transcription YouTube found lots of great resources
* Started to read - [M. Müller, D. P. Ellis, A. Klapuri, and G. Richard, “Signal processing for music analysis,” IEEE J. Sel. Topics Signal Process., vol. 5, no. 6, pp. 1088–1110, 2011]
  + Audio analysis fundamentals

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* [M. Müller, D. P. Ellis, A. Klapuri, and G. Richard, “Signal processing for music analysis,” IEEE J. Sel. Topics Signal Process., vol. 5, no. 6, pp. 1088–1110, 2011]
* STFT review – try looking at some YouTube videos

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* [M. Müller, D. P. Ellis, A. Klapuri, and G. Richard, “Signal processing for music analysis,” IEEE J. Sel. Topics Signal Process., vol. 5, no. 6, pp. 1088–1110, 2011]
* STFT review – try looking at some YouTube videos
* <https://www.youtube.com/watch?v=9boJ-Ai6QFM&t=95s>
  + Anna Wszeborowska – Music Transcription with Python
  + Forked github repo – rtmonoaudio2midi, great for prototyping
* <https://www.youtube.com/watch?v=tAECqx5i4oc>
  + Signal Processing Methods for Sound Recognition

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* [M. Müller, D. P. Ellis, A. Klapuri, and G. Richard, “Signal processing for music analysis,” IEEE J. Sel. Topics Signal Process., vol. 5, no. 6, pp. 1088–1110, 2011]
* Revision of Fourier concepts logged in annotated references
* Installed librosa : <https://librosa.github.io/librosa/> in anaconda
  + Great library for MIR
* Found great python resource for MIR: <https://musicinformationretrieval.com/index.html>
* Successfully produced chromagram of a 12 bar blues recording
* IEEE referencing generator : [IEEE Referencing Generator: Citation Generator by Cite This For Me](http://www.citethisforme.com/ieee)
* DSP guide : [The Scientist and Engineer's Guide to Digital Signal Processing's Table of Content](http://www.dspguide.com/pdfbook.htm)

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* Finished [M. Müller, D. P. Ellis, A. Klapuri, and G. Richard, “Signal processing for music analysis,” IEEE J. Sel. Topics Signal Process., vol. 5, no. 6, pp. 1088–1110, 2011]
  + **Window length** of 3.8ms with **sample frequency** of 44.1kHz
  + Question on page 4 about separation of frequency bins ???
* Investigated window length effect on frequency and temporal resolution on a short 9 seconds sample of a blues recording. Check **STFT** for more details
* DSP online guidebook: <https://allsignalprocessing.com>
  + Great textbook for DSP

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* Added a frequency chart for keys on a piano