

Plano de Ensino – Atividades Remotas Emergenciais – 2020/2

Código	DCC049
Disciplina	Music Information Retrieval
Turma	
Professor	Flavio Vinicius Diniz de Figueiredo

Ementa.

Music Signals are digital representations of one of the most important cultural productions in our society. Such signals present structural characteristics which are not shared by datasets from other domains. In fact, many music analysis tasks only become feasible by exploiting suitable music-specific assumptions.

This course is thus a primer on music information processing. The course will consist of 12 to 14 Lectures (Synchronous) and around 10 Hands-On Lab Assignments (Asynchronous). These lectures shall cover topics ranging from basic music representations (MIDI and the Piano Roll) to audio features, dynamic time warping, and signal decomposition.

The remaining 6 to 8 Lectures are left exams, project presentations and advanced research topics (e.g., music generation via GANs, music cognition, and playlist generation). The advanced topics covered will vary depending both on the number of students enrolled and the most recent research surveys from the literature.

See

https://docs.google.com/document/d/1UeDOMEwAl-XAONn7pS6_a7DtBrkGSft04EUwRI-xUQc

Programa

Aula	Data	Conteúdo previsto	Modalidade	Interação
1	01/12/2020 (ter)	Course Basics	Sync	Teams
2	03/12/2020 (qui)	Python and Numpy	Sync	Teams
	08/12/2020 (ter)	Holiday		
3	10/12/2020 (qui)	Music Representation	Sync	Teams
4	15/12/2020 (ter)	Lab 01	Async	Moodle/Teams
5	17/12/2020 (qui)	Fourier Analysis of Signals	Sync	Teams
6	19/12/2020 (sab)	Lab 02	Async	Moodle/Teams
	20/12/2020 - 04/01/2020	Xmas and New Years		
7	05/01/2021 (ter)	Music Synchronization	Sync	Teams
8	07/01/2021 (qui)	Lab 03	Async	Moodle/Teams
9	12/01/2021 (ter)	Music Structure Analysis	Sync	Teams
10	14/01/2021 (qui)	Lab 04	Async	Moodle/Teams
11	19/01/2021 (ter)	Exam 01	48h Async	Moodle/Teams
12	21/01/2021 (qui)	Chord Recognition	Sync	Teams
13	26/01/2021 (ter)	Lab 05	Async	Moodle/Teams
14	28/01/2021 (qui)	Tempo and Beat Tracking	Sync	Teams
15	02/02/2021 (ter)	Lab 06	Async	Moodle/Teams
16	04/02/2021 (qui)	Content-Based Audio Retrieval	Sync	Teams
17	09/02/2021 (ter)	Lab 07	Async	Moodle/Teams
18	11/02/2021 (qui)	Musically Informed Audio Decomposition	Sync	Teams
	16/02/2021 (ter)	Carnival		
19	18/02/2021 (qui)	Lab 08	Async	Moodle/Teams
20	23/02/2021 (ter)	Exam 02	48h Async	Moodle/Teams
21	25/02/2021 (qui)	Project Discussions and Open Datasets	Sync	Teams
22	02/03/2021 (ter)	Introduction of Deep Learning for Music (pt 1)	Sync	Teams

23	04/03/2021 (qui)	Introduction do Deep Learning for Music (pt 2)	Sync	Teams
24	09/03/2021 (ter)	Music Generation with GANs	Sync	Teams
25	11/03/2021 (qui)	Research in Playlist Generation	Sync	Teams
26	16/03/2021 (ter)	Music Recommender Systems	Sync	Teams
27	18/03/2021 (qui)	Analysis of Digital Libraries Related to Music	Sync	Teams
28	23/03/2021 (ter)	Project Presentations	Sync	Teams
29	25/03/2021 (qui)	Project Presentations	Sync	Teams
30	30/03/2021 (ter)	Project Presentations	Sync	Teams

Bibliografia

- [FMP Book] <https://www.audiolabs-erlangen.de/fau/professor/mueller/bookFMP>

Material de apoio

- [FMP Notebooks] <https://www.audiolabs-erlangen.de/resources/MIR/FMP/C0/C0.html>

- [MIR Notebooks] <https://musicinformationretrieval.com/>

- Recent Research Surveys, see -

https://docs.google.com/document/d/1UeDOMEwAl-XAONn7pS6_a7DtBrkGSft04EUwRI-xUQc/edit?usp=sharing

Avaliações

1	Exam 01	20 pontos	A Definir
2	Exam 02	20 pontos	A Definir
3	Labs	36 pontos	A Definir
4	Project	24 pontos	A Definir

Definições

Modalidade: tipo de atividade didática, sempre remota. Exemplos: reunião virtual, video, exercícios, avaliação.

Interação: forma de interação prevista para exposição de conteúdo, discussões, esclarecimento de dúvidas, promoção de debates, resolução de exercícios.

Videos (aulas): conteúdo expositivo preparado em vídeo, com utilização dos slides disponíveis e outros recursos. Tópicos serão divididos em vários vídeos curtos para melhor acompanhamento e para facilitar a produção.

Reunião virtual: Reunião virtual no horário de aula, para discussões e esclarecimento de dúvidas.