

14. Drum generation with cellular automata

Generative Music AI

THE **SOUND** OF AI



Universitat
Pompeu Fabra
Barcelona

MTG
Music Technology
Group

What we'll build

$$States = \{ON, OFF\}$$

| | | | | | | | |
|--------|--|--|--|--|--|--|--|
| hi-hat | | | | | | | |
| snare | | | | | | | |
| kick | | | | | | | |

time

What we'll build

- 4 transition rules:
 - Syncopation resolution
 - Filling gaps
 - Accenting
 - Mutation

What we'll build

- *CellularAutomatonDrumGenerator*
- *DrumPatternMusic21Converter*

Exploration

- More drum instruments

Exploration

- More drum instruments
- Modify rules

Exploration

- More drum instruments
- Modify rules
- Add rules

Exploration

- More drum instruments
- Modify rules
- Add rules
- **Change initialisation**

Exploration

- More drum instruments
- Modify rules
- Add rules
- Change initialisation
- CA for chord generation

What's up next?

Genetic algorithms