

# Mapping of Flow Machines

Elliot Martin

Ley-Olivia Avila Rojas

June 2022

## 1 Description of tool

On the Flow Machines website, the tool is described as "a research and development and social implementation project that aims to expand the creativity of creators in music". In the application you can compose music based on three different specifications: suggested bar melodies from the constructed musical rules, user's own original Style Palette or over one-hundred presets of Style Palettes. These specifications are used in combination with music parameters such as "harmony of melody and chord", "note duration" and "complexity of the melody" to suit the genre of music the user wish to compose [1].

## 2 AI Algorithm

Flow Machines uses a known machine learning technique called Markov models [2]

## 3 Data-set

Flow Machines trains their system in a different way then the other tools, they work with a unique Lead Sheet Database (LSDB) instead of a data-set. This database was used to develop a lead sheet generator, Flow Composer, which works as a composition tool by using a method called inpainting [2]. The database consists of 13,000 lead sheets within multiple categories, but primarily within jazz and pop [3].

## 4 Environment

Flow Machines is executed as an application.

## 5 Developer

Flow Machines is developed by the Sony Computer Science Laboratories.

## 6 Accessibility

Flow Machines is classified as closed-source in this project.

## References

- [1] Flow Machines. Flow machines – ai assisted music production. URL: <https://www.flow-machines.com/>.
- [2] François Pachet, Pierre Roy, and Benoit Carré. *Assisted Music Creation with Flow Machines: Towards New Categories of New*, pages 485–520. Springer International Publishing, Cham, 2021. doi:10.1007/978-3-030-72116-9\_18.
- [3] Flow Machines. Ai makes pop music – flow machines, Sep 2016. URL: <https://www.flow-machines.com/history/events/ai-makes-pop-music/>.