

An Agentic Approach to Music Creation

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Problem

- Music generation: Waveforms vs MIDI
- Generative AI while keeping the user involved
- Extension of existing work

Mycka, J., Mańdziuk, J. Artificial intelligence in music: recent trends and challenges. *Neural Comput & Applic* **37**, 801–839 (2025).

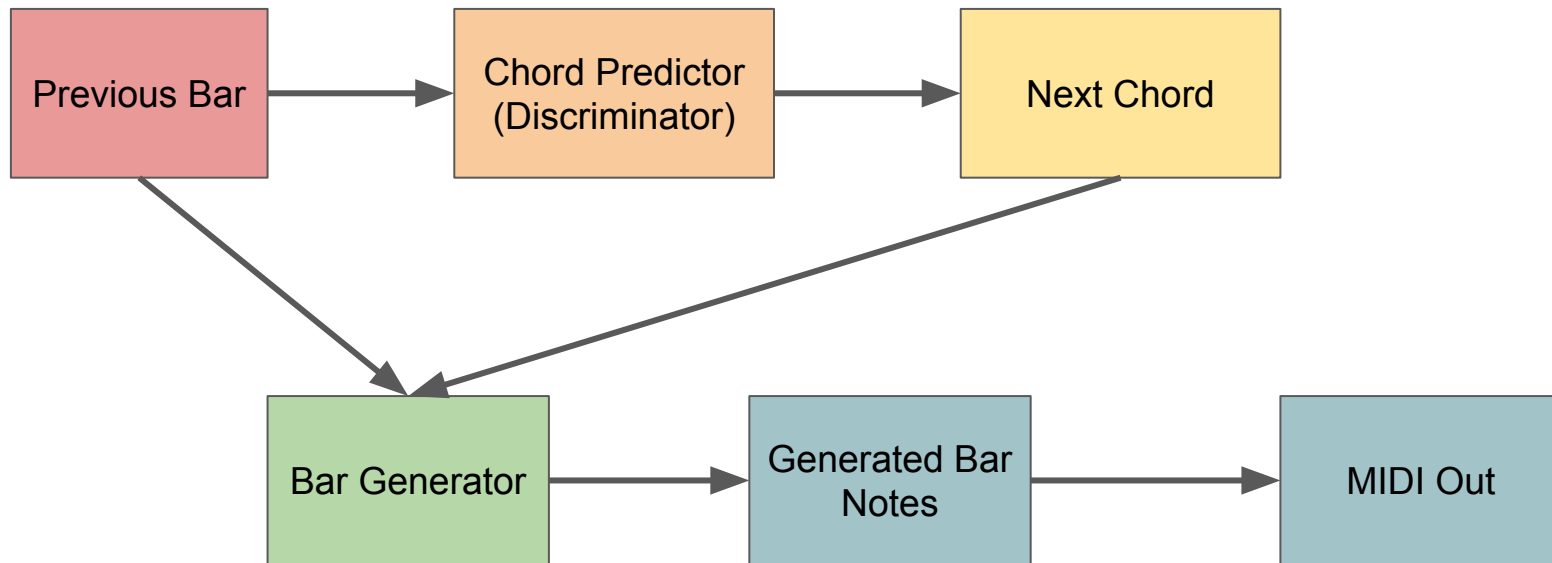
<https://doi.org/10.1007/s00521-024-10555-x>

Chen, Y., Huang, L., Gou, T. (2024). Applications and Advances of Artificial Intelligence in Music Generation:A Review.

<https://doi.org/10.48550/arXiv.2409.03715>

Tian, S., Zhang, C., Yuan, W., Tan, W., Zhu, W. (2025). XMusic: Towards a Generalized and Controllable Symbolic Music Generation Framework. <https://doi.org/10.48550/arXiv.2501.08809>

Solution



Evaluation

- Music is subjective, but there are objective metrics
- Large MIDI dataset to compare data:
 - Pitch and rhythm distribution
 - Note density and polyphony
 - Distance from training data
 - Intervals used compared to other tracks
- Post training evaluation survey
 - Provide both AI and human-made samples
 - Categorize genre, emotion, and creator