Text-to-Music Generation Using AI: Theoretical Foundations and Practical Applications

Trinh Quang Minh*, Ngo Thi Lan*, Trinh Hue*, Bui Xuan Tung*
*Faculty of Engineering-Technology, Tay Do University, Can Tho City, Viet Nam.
tqminh@tdu.edu.vn

Abstract

A text-to-music generator is an artificial intelligence system that composes songs from user-provided text prompts by leveraging large datasets for training. This research explores the theoretical foundations linking language and music through semantic, emotional, and structural analysis, and demonstrates practical integration of AI music generation into software via APIs. To illustrate, simulated Python code examples are provided using a fictional Suno AI API, alongside references to platforms such as Boomy, AIVA, Amper Music, and OpenAI Jukebox. These integrations highlight how developers and businesses can embed automated music creation into applications for education, entertainment, therapy, and digital media, thereby advancing interdisciplinary research and software innovation.

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Từ khóa
AI music generation, code AI API, AI software,

1. Introduction

AI Music Generation uses artificial intelligence machine learning models with Datasets to train software to compose music automatically or in collaboration with humans. These models can generate melodies, harmonies, rhythms, and even lyrics based on input prompts or learned patterns. AI models (e.g. RNNs, Transformers, Diffusion Models) analyze musical structures and patterns. Content Generation: Royalty-free music for videos, podcasts, and social media. Therapy & Wellness: Personalized soundscapes for relaxation or focus. Education: Tools for learning composition and music theory interactively. Integrated Use Cases: Apps & Games: Dynamic background music that adapts to user gameplay or behavior. The application of APIs in software applications to create music from text using artificial intelligence marks an important step forward in connecting technology and art. The identified methodsencompass neural networks, automation and simulation, neurosciencetechniques, optimization algorithms, data analysis, and Bayesian models,computational algorithms, and music processing and audio analysis. The research objective is to explore the theory by clarifying the relationship between language and music through semantic, emotional and structural analysis. Develop AI models with the construction of hypothetical modeling frameworks (transformer, Bayesian, RNN) to convert text to music. Practical application is to propose ways to integrate APIs (Boomy, AIVA, Amper, Musicfy) into software to serve education, entertainment, therapy and artistic creation.

2. Methodology

- Using a range of approaches that connect computational linguistics, music theory and machine learning. Implemented in an interdisciplinary manner, combining computational linguistics, music theory and machine learning. This interdisciplinary approach not only advances AI-generated music but also deepens our understanding of the cognitive and cultural connections between language and music.

- First, the study investigates the theoretical foundations of the connection between language and music, including semantic, emotional and structural analysis of texts. The researchers begin by exploring theoretical frameworks that define the relationship between linguistic structures and musical elements such as melody, rhythm and harmony.

- Next, training data is collected from large corpora of song lyrics and corresponding music, to build deep learning models, specifically transformer models, to convert text into musical elements such as melody, rhythm, and harmony. Machine learning techniques - specifically deep learning models such as transformers - are then trained to map text input to musical output, often incorporating natural language processing (NLP) to interpret emotional tone, structure, and intent.

- Model training and evaluation are performed using both quantitative (accuracy of pitch, rhythm) and qualitative (assessment of listener perception) methods.

This includes qualitative analysis of musical semantics and quantitative modeling using large datasets of song lyrics and corresponding musical compositions. This approach not only advances AI music generation technology, but also expands our understanding of the relationship between language and music in an interdisciplinary context. Experimental validation includes both objective metrics (e.g., timbre accuracy, rhythmic alignment) and subjective assessments through listener studies.

***. Overview of related research:** In recent years, AI in music has emerged as a vibrant research field, combining computational linguistics, music theory, and deep learning. Notable international works include: (*There are links to related research documents or closely related documents in the reference section below*),

- **Zhao et al. (2024):** Presents a comprehensive overview of methods and theoretical frameworks in text-to-music generation, emphasizing the role of Transformer and Diffusion models in generating music from text (AI-Enabled Text-to-Music Generation: A Comprehensive Review).
- **Chen et al. (2024):** Analyzes applications and advances of AI in music creation, from melody composition, instrument synthesis to artificial vocals, and points out the potential applications in education, therapy, and entertainment (Applications and Advances of Artificial Intelligence in Music Generation: A Review).
- **IEEE Review (2025):** Systematizing research on deep learning in music, focusing on training data, evaluation methods, and copyright challenges (Music Generation Using Deep Learning and Generative AI: A Systematic Review).
- **EuropePMC (2024):** In-depth research on text-to-music in both symbolic and audio domains, including melody composition, polyphonic, instrumental, and vocal synthesis (Artificial Intelligence-Enabled Text-to-Music Generation: A Comprehensive Review).

3. Results And Discussion

3.1. Bayesian models and Suno AI Text to Music Generator

The interdisciplinary impact is evident, extending into sound engineering, music therapy, and cognitive neuroscience. Robust frameworks forevaluation include Bayesian models, fractal metrics, and the statisticalcreator-evaluator.

Theseapproaches signify the complexity and versatility of AI in music creation. Bayesian models are statistical models based on Bayes' Theorem. They allow us to update beliefs or probabilities as new data becomes available. Core idea: Combine prior knowledge with new evidence.

$$P(H|D)= P(D|H)\cdot P(H) / P(D)$$

- $P(H|D)$: Posterior – updated belief after seeing data
- **P(D|H)**$P(D|H)$: Likelihood – how likely data is under the hypothesis
- **P(H)**$P(H)$: Prior – belief before seeing data
- **P(D)**$P(D)$: Evidence – total probability of data

Bayesian models are widely used in:

- *Machine learning*: Classification (Bayesian classifiers, Naive Bayes Classifier) - Bayesian Neural Networks, regression, causal inference.
- ***Natural language processing***: Word prediction, sentiment analysis, Topic modeling (e.g., LDA).
- ***Medicine***: Diagnosis of diseases based on symptoms and historical data (Diagnostic models).
- ***Social sciences***: Behavioral analysis, decision modeling.
- ***Finance***: Risk assessment.

The theoretical model to interdisciplinary application of music generation from text using artificial intelligence

Diagram Stages Explained:

- **Input (Text):** Raw textual input such as lyrics, poetry, or narrative descriptions.
- **Natural Language Processing (NLP):** Techniques like tokenization, syntactic parsing, and sentiment analysis to understand the structure and meaning of the text.
- **Emotional and Semantic Analysis:** Extraction of emotional tone, mood, and semantic context to guide musical expression.
- **Music Theory Mapping:** Translating linguistic and emotional cues into musical elements like key, tempo, rhythm, and harmony.
- **AI Model (Deep Learning):** Neural networks (e.g., transformers, RNNs) generate music based on learned patterns from large datasets.
- **Output (Music Composition):** Final musical output in the form of MIDI, audio, or sheet music.

Text to Music AI, Suno AI software is a web and app-based text to music generator that can generate complete songs in seconds from simple text prompts. Suno AI, or simply Suno, is a music-generating AI music composition program designed to generate realistic songs that combine vocals and instruments, or are purely instrumental. Suno does not disclose the dataset used to train its AI but claims that it has been protected from plagiarism and copyright issues.

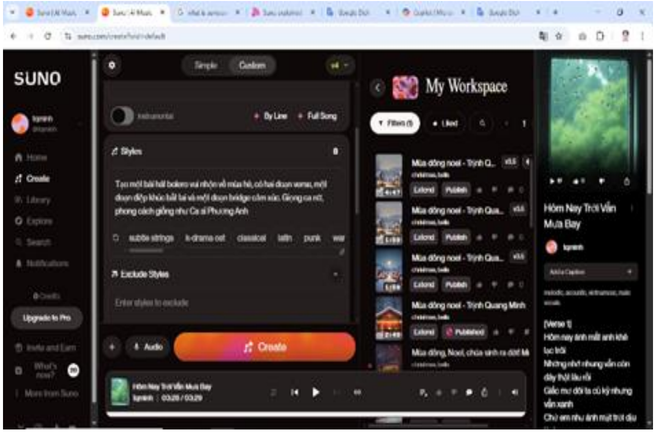


Figure 1. Suno AI software

Currently, Suno AI does not provide open source or public API so you can write code directly to integrate into your software. However, you can use the Suno AI platform through their web interface by entering a prompt to create music. For example, how to use Suno AI with a prompt (no code required): go to https://suno.com (or https://app.suno.ai) and enter a prompt like this: Create a fun summer bolero song, with two verses, a catchy chorus and an emotional bridge. Female vocal, style like a Bolero Singer. Then, Suno AI will automatically generate: Melody, Lyrics, Synthetic vocals, Downloadable music file.

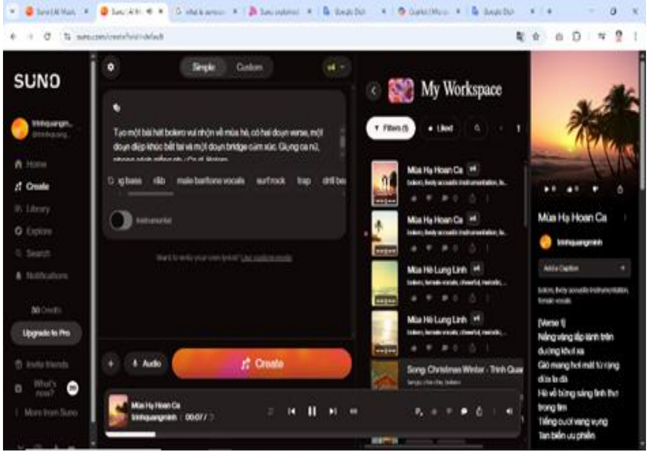
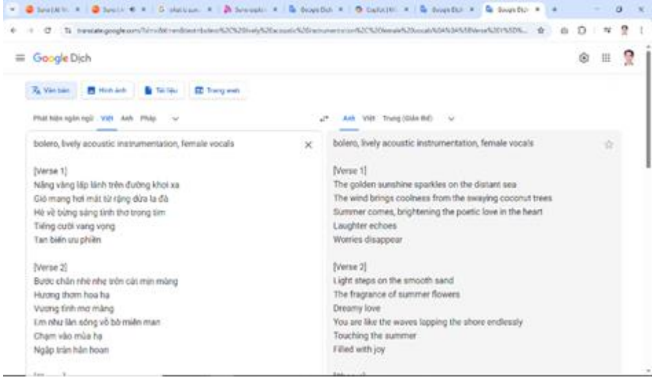


Figure 2. Suno AI software is a web and app-based text to music generator.



bolero, lively acoustic instrumentation, female vocals

[Verse 1]
Nắng vàng lấp lánh trên đường khơi xa
Gió mang hơi mát từ rặng dừa la đà
Hè về bừng sáng tình thơ trong tim
Tiếng cười vang vọng
Tan biến ưu phiền

[Verse 2]
Bước chân nhẹ nhẹ trên cát mịn màng
Hương thơm hoa hạ
Vương tình mơ màng
Em như làn sóng vỗ bờ miên man
Chạm vào mùa hạ
Ngập tràn hân hoan

bolero, lively acoustic instrumentation, female vocals

[Verse 1]
The golden sunshine sparkles on the distant sea
The wind brings coolness from the swaying coconut trees
Summer comes, brightening the poetic love in the heart
Laughter echoes
Worries disappear

[Verse 2]
Light steps on the smooth sand
The fragrance of summer flowers
Dreamy love
You are like the waves lapping the shore endlessly
Touching the summer
Filled with joy

Figure 3. Foreign language translation website https://translate.google.com/?sl=en&tl=vi&op=translate

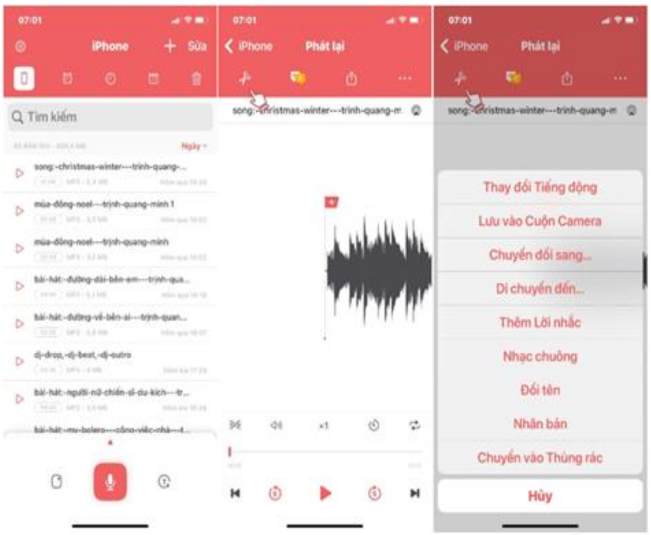


Figure 1. Export music files to mobile phone

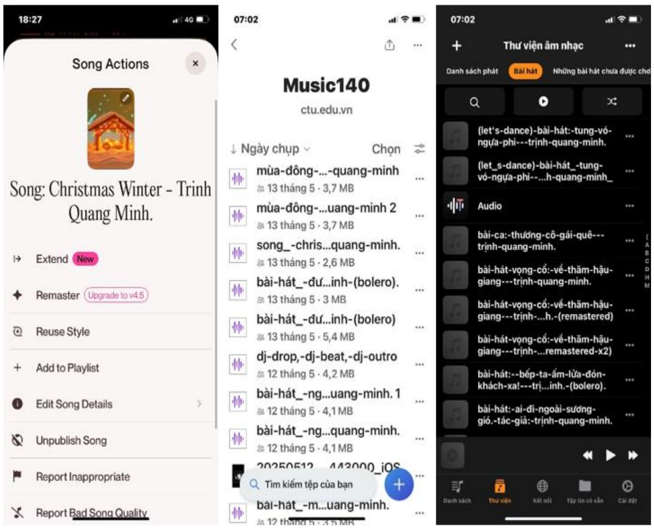


Figure 2. Export music files to a network drive on onedrive and to the MP3 music software Flacbox installed on your mobile phone.

The author's AI songs in the process of researching AI song-generating software, collected into a library of songs to test the software's features,

Link download: *https://ctueduvn-my.sharepoint.com/:f:/g/personal/tqminh_ctu_edu_vn/EmEBIuhramJAjGo6dQ0dE4oBsxFFr0uI6yJBwtk2G5BfVg?e=seA790*

Here is a mock Python code example that uses a fictional Suno AI API to generate music from prompt text. Note: This is not a real API, just a simulation of how it would work if Suno AI provided a public API. Suno AI does not provide an API yet. However, here is a mock Python code example that uses a fictional Suno AI API to generate music from a prompt.

Note: This is not a real API, it is just a simulation of how it would work if Suno AI provided a public API.
Here is an example of the mock code that calls the Suno AI API:

```
import requests
# Suno AI API Emulator URL
API_URL = "https://api.suno.ai/v1/generate-music"
# Emulator Access Token
API_KEY = "your_api_key_here"
# Song description prompt
prompt = {
    "prompt": " Create a fun summer bolero song, with two verses, a catchy chorus and an emotional bridge. Female vocal, style like a Bolero Singer. ",
    "genre": "Pop",
    "language": "vi",
    "duration": 60  # song  duration in seconds
}
# Send POST request to API
headers = {
    "Authorization": f"Bearer {API_KEY}",
    "Content-Type": "application/json"
}
response = requests.post(API_URL, json=prompt, headers=headers)
# Handling feedback
if response.status_code == 200:
    data = response.json()
    print("♪ Song created successfully!")
    print("🔗 Download link:", data.get("download_url"))
    print("🎧 Listen:", data.get("preview_url"))
else:
    print("❌ Error while creating music:", response.status_code, response.text)
```

Note:
API_URL, API_KEY, and fields like prompt, genre, language are simulated.
If Suno AI provides real API in the future, you can replace these values according to the official documentation.

```
import requests
API_KEY = "your_suno_api_key"
prompt = "A dreamy lo-fi beat for studying"
response = requests.post(
    "https://api.suno.ai/generate",
    headers={"Authorization": f"Bearer {API_KEY}"},
    json={"prompt": prompt}
)
if response.ok:
    music_url = response.json().get("audio_url")
    print("Generated music:", music_url)
else:
    print("Error:", response.text)
```

Example AIVA API emulator code:

```
import requests
API_URL = "https://api.aiva.ai/v1/compositions"
API_KEY = "your_aiva_api_key"
payload = {
    "style": "Cinematic",
    "duration": 90,
    "tempo": 120,
    "instruments": ["piano", "strings"],
    "title": "Epic Journey"
}
headers = {
    "Authorization": f"Bearer {API_KEY}",
    "Content-Type": "application/json"
}
response = requests.post(API_URL, json=payload, headers=headers)
if response.status_code == 200:
    data = response.json()
    print("♪ Download your track:", data["download_url"])
else:
    print("❌ Error:", response.status_code, response.text)
```

Flask source code file for the web interface simulating music creation from a prompt
pip install flask

3.2 Integrate AI music generation into your software (advanced level) with using API

To integrate AI music creation into your software using API, we can use platforms with API such as: Boomy, AIVA, Amper Music, OpenAI Jukebox (open source but very complex).

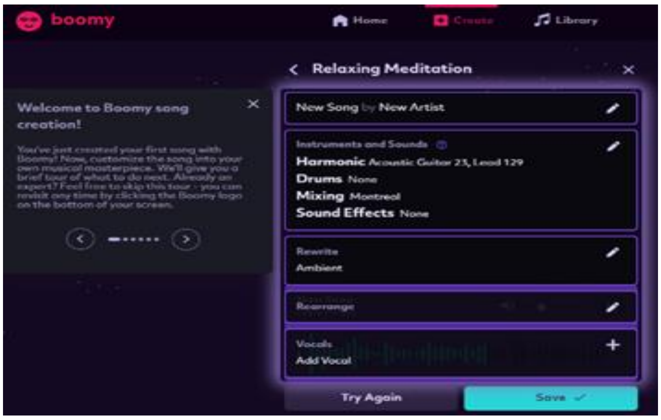
Boomy is an AI-powered music creation platform that helps users create original songs, even if they are not musically inclined. By selecting a genre or style, users can quickly create tracks for personal or commercial use. The platform is especially popular with content creators who need custom music for performances, videos, podcasts, or social media. Boomy offers an easy way to experiment with AI-generated music and potentially earn royalties. Launched to democratize music production, the app lets users create songs by selecting a style, then AI compiles a track. Users can fine-tune their creations by adjusting elements like tempo, instruments, and structure. Boomy is not a replacement for digital audio workstations (DAWs) or music production software.

Input: Text prompts, moods, genres, or reference tracks.

Processing:

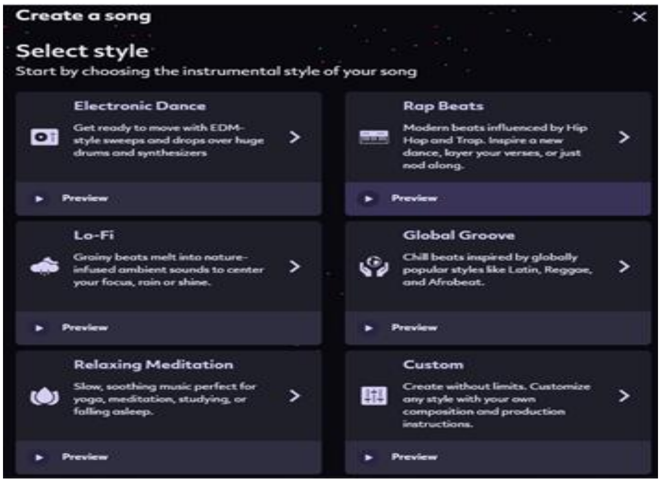
Output: Original compositions in MIDI, audio, or sheet music format.

Some popular AI music creation tools you can integrate: Suno – Generate text to vocal songs. AIVA – Classical and cinematic music composition. Soundraw – Custom music for creators. Amper Music – Generate royalty-free music for media. Magenta (by Google) – Open source tool for music and art creation. Integration options: API integration using platforms like Suno or Soundraw via API to embed music creation into your app. Custom model deployment: Train or fine-tune models using frameworks like TensorFlow, PyTorch, or Magenta. Web embedding: Use iframes or SDKs to add music creation widgets to your website. With link https://boomy.com/style/,



Harmonic Acoustic Guitar 23, Lead 129
Drums None
Mixing Montreal
Sound Effects None

Figure 3. Create a new tune of your choice on boomy.com



Start by choosing the instrumental style of your song

Electronic Dance: Get ready to move with EDM-style sweeps and drops over huge drums and synthesizers

Rap Beats: Modern beats influenced by Hip Hop and Trap. Inspire a new dance, layer your verses, or just nod along.

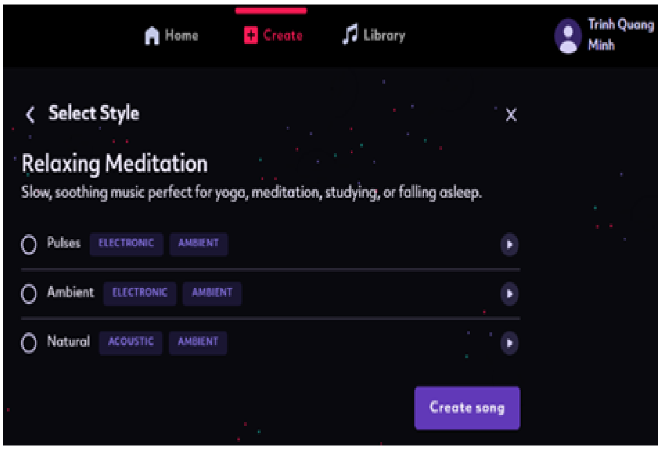
Lo-Fi: Grainy beats melt into nature-infused ambient sounds to center your focus, rain or shine.

Global Groove: Chill beats inspired by globally popular styles like Latin, Reggae, and Afrobeat.

Relaxing Meditation: Slow, soothing music perfect for yoga, meditation, studying, or falling asleep.

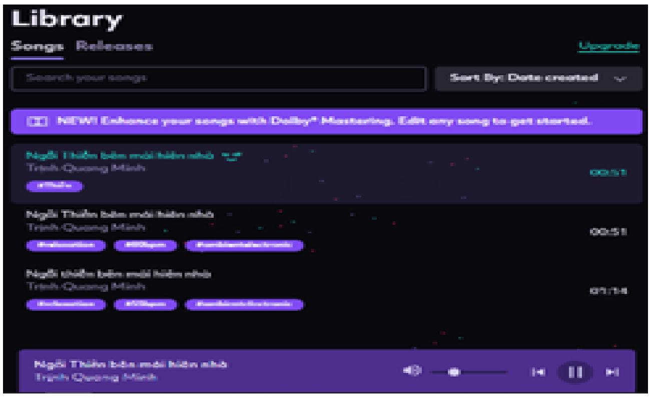
Custom: Create without limits. Customize any style with your own composition and production instructions.

Figure 4. Choose new music of your choice on boomy.com



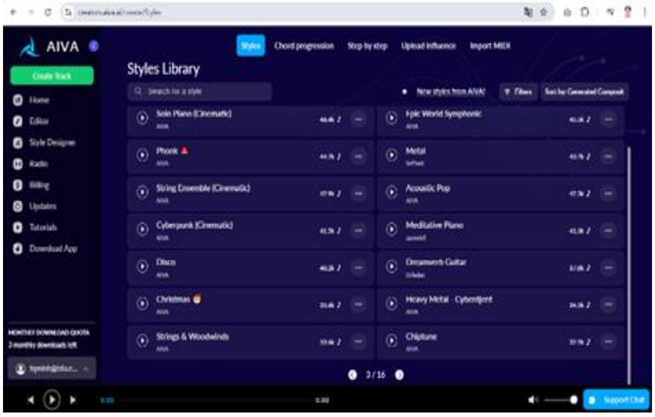
Slow, soothing music perfect for yoga, meditation, studying, or falling asleep.

Figure 5. Choose from a variety of detailed styles during music creation on boomy.com



NEW! Enhance your songs with Dolby* Mastering. Edit any song to get started.

Figure 6. Newly created music library on boomy.com website



MONTHLY DOWNLOAD QUOTA
2 monthly downloads left

Figure 7. Choose new styles based on aiva.ai music samples https://creators.aiva.ai/create/Styles

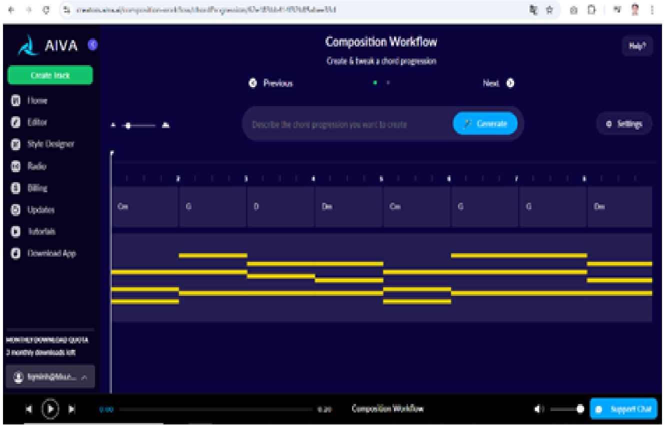


Figure 8. Detailed adjustments in the music at https://creators.aiva.ai/composition-workflow/

https://creators.aiva.ai/composition-workflow/chordProgression/62e183bb414f32b85abee33d

Get AIVA's Desktop App (Download for macOS, Download for Windows, Download for Linux) - AIVA-2.4.21.Setup.exe (119MB)

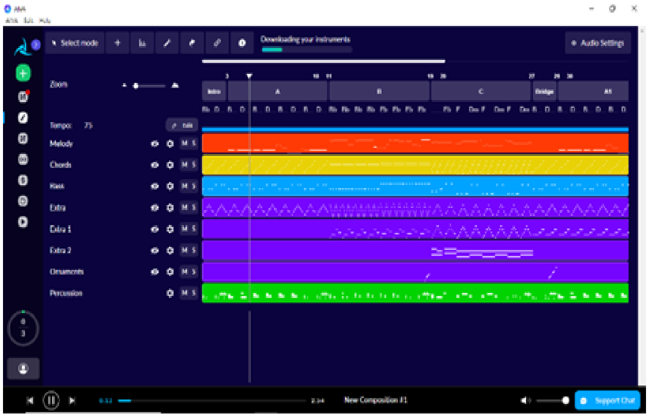


Figure 9. Detailed adjustment of the orchestration instruments in the music at https://creators.aiva.ai/composition-workflow/

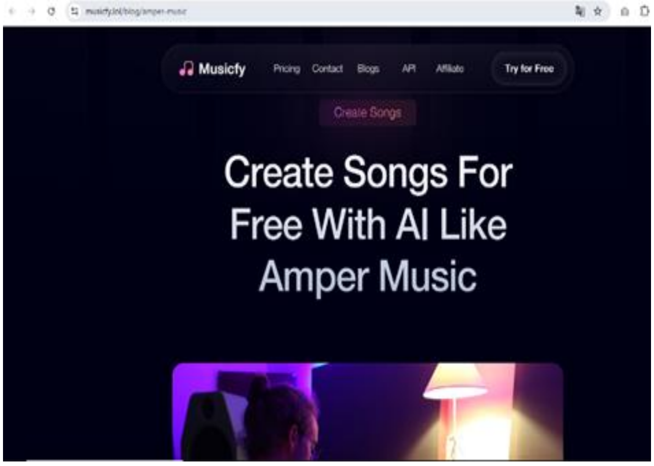


Figure 10. Music creation site using AI technology https://musicfy.lol/blog/amper-music

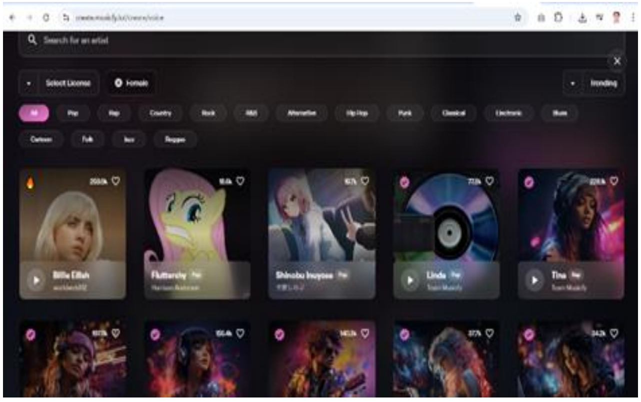


Figure 11. Choose from digital voices: https://create.musicfy.lol/create/voice

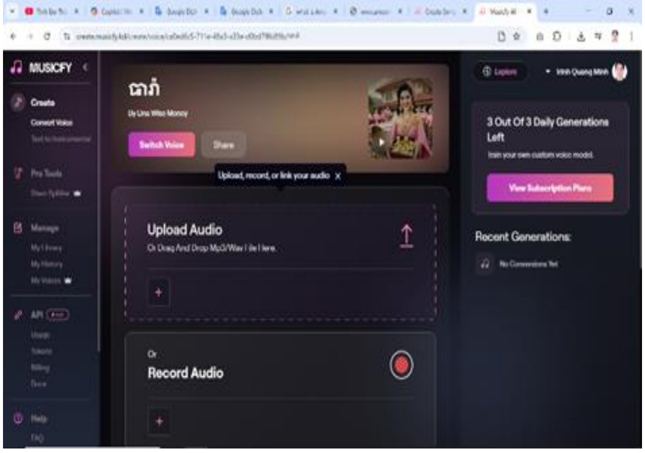


Figure 12. Upload a song by the author and then choose digital voices for the software to replace the voice: https://create.musicfy.lol/create/voice

Create Api Key,

- Head over to api-access and enter payment details.

- Create a new API token at api-access/tokens

- The API only responds to HTTPS-secured communications. Any requests sent via HTTP return an HTTP 301 redirect to the corresponding HTTPS resources.

- The API returns request responses in JSON format. When an API request returns an error, it is sent in the JSON response as an error key.

- Authentication: You must include an API key in each request as a Bearer token in the Authorization header.

Voice Conversion - Convert Voice

POST/convert-voice

Body

multipart/form-data

file

file

pitch_shift

string

Example:

"0"

formant_shift

string

Example:

"1.1"

isolate_vocals

string

Example:

"true"

background_pitch_shift

string

default:0

Pitch shift of the background music. Only applies if isolate_vocals is true. Range between -12 and 12.

Example:

"0"

background_formant_shift

string

default:1

Formant shift of the background music. Only applies if isolate_vocals is true. Range between 0.1 and 2.0

Example:

"1.1"

voice_id

string

Example:

"c06b8712-2854-4170-b6f5-11b28817d8b3"

Response

200 - application/json

Successful Response

file_url

string

Example:

"https://audio.musicfy.lol/file_id"

type

string

Example:

"vocals"

//-------------------------

```
import requests
url = "https://api.musicfy.lol/v1/convert-voice"
payload = "-----011000010111000001101001\r\nContent-Disposition: form-data; name=\"pitch_shift\"\r\n\r\n0\r\n-----011000010111000001101001\r\nContent-Disposition: form-data; name=\"formant_shift\"\r\n\r\n1.1\r\n-----011000010111000001101001\r\nContent-Disposition: form-data; name=\"isolate_vocals\"\r\n\r\ntrue\r\n-----011000010111000001101001\r\nContent-Disposition: form-data; name=\"background_pitch_shift\"\r\n\r\n0\r\n-----011000010111000001101001\r\nContent-Disposition: form-data; name=\"background_formant_shift\"\r\n\r\n1.1\r\n-----011000010111000001101001\r\nContent-Disposition: form-data; name=\"voice_id\"\r\n\r\nc06b8712-2854-4170-b6f5-11b28817d8b3\r\n-----011000010111000001101001--\r\n\r\n"
headers = {"Content-Type": "multipart/form-data"}
response = requests.request("POST", url, data=payload, headers=headers)
print(response.text)
```

//-------------------------

```
[
 [
  {
   "file_url": "https://audio.musicfy.lol/file_id",
   "type": "vocals"
  },
  {
   "file_url": "https://audio.musicfy.lol/file_id",
   "type": "instrumental"
  },
  {
   "file_url": "https://audio.musicfy.lol/file_id",
   "type": "combined"
  }
 ]
]
```

//-------------------------

Voice Conversion - Get Voices

GET/voices

Try it

Query Parameters

voice_types

string

Filter for which category of voices to include in response.

Example:

"instrument, parody, royalty_free"

Response

200 - application/json

Successful Response

artist

string

Example:

"Spongebob Squarepants"

audioPreviewUrl

any | null

gender

any | null

genre

any | null

id

string

Example:

"72bc01b0-0b34-4d04-9217-3487d69185cc"

thumbnail

string

Example:

"https://pub-1de51ae1e68144d78f7c582e1dda3ab1.r2.dev/SB-Standees-Spong-3_800x.webp"

type

string

Example:

"parody"

usageScore

number

Example:

0.5

trendingScore

number

Example: 0.5 - T**ext to Music**

Text to Music

POST/generate-music

Try it

Body

application/json

prompt

string

Example:

"Electronic guitar"

Response

200 - application/json

Successful Response

file_url

string

Example:

"https://audio.musicfy.lol/file_id"

type

string

Example:

"music"

Python - Text to Music

https://docs.musicfy.lol/api-reference/text-to-music/create

```
import requests
url = "https://api.musicfy.lol/v1/generate-music"
payload = {"prompt": "Electronic guitar"}
headers = {"Content-Type": "application/json"}
response = requests.request("POST", url, json=payload, headers=headers)
print(response.text)
//---------------------
[
  {
   "file_url": "https://audio.musicfy.lol/file_id",
   "type": "music"
  }
]
//---------------------
```

https://convertio.co/vn/mp4-mp3/

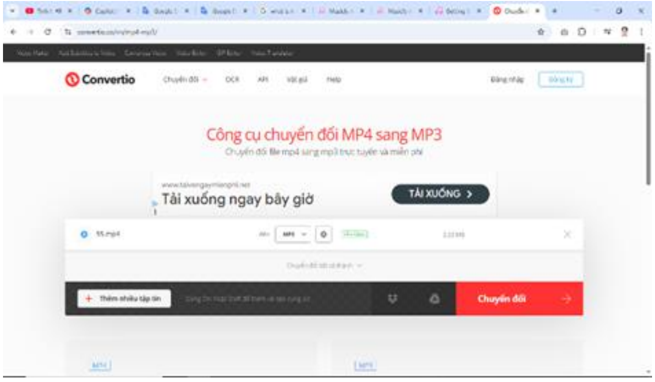


Figure 13. Convert MP4 to MP3 file

Musicfy provides a public API that lets you utilize several features for your own AI voice cloning and music generation tools.

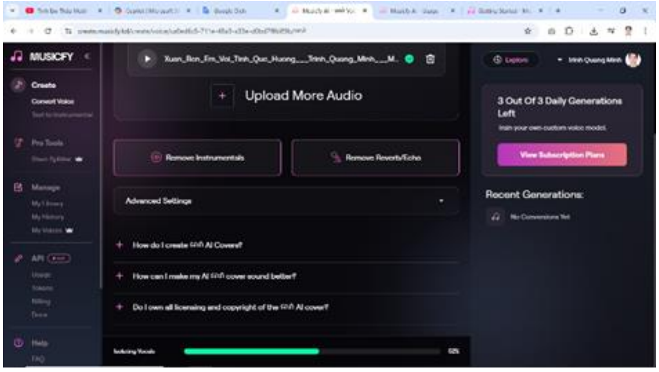
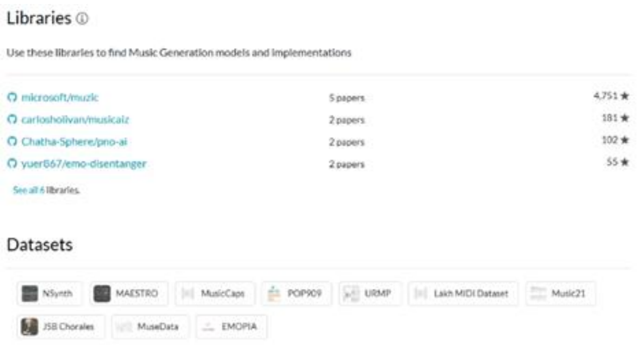


Figure 14. Your own AI voice cloning and music generation tools

Use these libraries to find Music Generation models and implementations, https://paperswithcode.com/task/music-generation



Libraries ⓘ

Use these libraries to find Music Generation models and implementations

microsoft/muzic	5 papers	4,751 ★
carlosholivan/musicaiz	2 papers	181 ★
Chatha-Sphere/pno-ai	2 papers	102 ★
yuer867/emo-disentanger	2 papers	55 ★

See all 6 libraries.

Datasets

NSynth · MAESTRO · MusicCaps · POP909 · URMP · Lakh MIDI Dataset · Music21 · JSB Chorales · MuseData · EMOPIA

Figure 15. Types of Datasets for training machine learning software that is writing about creating new music.

The Music Encoding Initiative (MEI) is a community-driven, open-source effort to define a system for encoding musical documents in a machine-readable structure, https://create.musicfy.lol/create/voice/Mabel

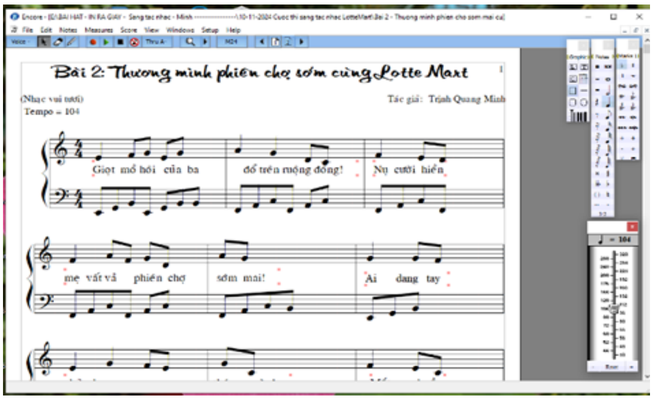

File Edit Notes Measures Score View Windows Setup Help
Bài 2: Thương mình phiên chợ sớm cùng Lotte Mart
(Nhạc vui tươi)
Tempo = 104
Tác giả: Trịnh Quang Minh
Giọt mồ hôi của ba
đổ trên ruộng đồng!
Nụ cười hiền
mẹ vất vả phiên chợ
sớm mai!
Ai đang tay

Figure 16. Music encoding software that the author installed on the computer.

3.2 Build scalable conversational AI

Agents - Build reliable agents

- Agent with chat + stream
- Agent with RAG
- Agent with tool calling
- Agent with third-party API
- Agent with PDF extraction
- Agent with React Flow

Restack provides a backend framework for accurate & reliable AI agents. Build scalable conversational AI - Build scalable AI agents with Restack to create chatbots capable of orchestrating millions of conversations with customers in parallel. Restack's long-running agents provide built-in memory, allowing your chatbot to persist context and state for months, or even years, without any infrastructure to manage (https://github.com/restackio/examples-python/tree/main/agent_chat).

from API - You can run workflows from the API by using the generated endpoint:

POST http://localhost:6233/api/agents/AgentChat

If using pip:

```
python -c "from src.schedule_workflow import
run_schedule_seed_workflow;
run_schedule_seed_workflow()"
```

Speech related research: https://speechresearch.github.io/ and https://github.com/microsoft/NeuralSpeech.

Conclusion

In short, the exploration of AI-generated music from text represents a groundbreaking convergence of computational creativity, language modeling, and music theory to a practical application that applies a wide range of interdisciplinary knowledge to finished products. This interdisciplinary research not only deepens our understanding of how machines can interpret and translate human language into expressive soundscapes, but also opens new frontiers in areas such as digital art, therapy, education, and entertainment. By bridging the gap between text semantics and musical composition, AI-driven systems are redefining the boundaries of artistic collaboration and innovation, providing tools that empower creators across all disciplines to create personalized, dynamic, and emotionally resonant musical experiences. Through APIs, developers can easily integrate automated music generation capabilities into their applications, thereby providing users with a personalized, flexible, and efficient music creation experience. Not only does it save time and money on music production, APIs also open up opportunities for fields such as education, entertainment, music therapy, and digital media. Thanks to the combination of natural language processing and machine learning music models, these applications are contributing to reshaping the way people interact and create with music in the digital age, adding tools to help musicians and singers develop more effectively and sustainably. The global reach of this research underscores AI'stransformative role in contemporary music, opening avenues for futureinterdisciplinary exploration and algorithmic enhancements. The scientific contribution to the interdisciplinary is to connect computational linguistics – music theory – AI to create a new research direction. From the theoretical framework with the proposed synthesis model including the steps of NLP → sentiment analysis → music theory mapping → AI model → music output. Applying the simulation API to provide Python simulation code for Suno AI and AIVA, helping to illustrate how to integrate AI into software. The practical contribution is to open up the possibility of automatic music generation for videos, podcasts, games, education and music therapy.

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Tạo văn bản thành nhạc bằng AI: Nền tảng lý thuyết và Ứng dụng thực tế

Trịnh Quang Minh*, Ngô Thị Lan*, Trịnh Huề*, Bùi Xuân Tùng*

*Khoa Kỹ thuật Công nghệ, Trường Đại học Tây Đô, Thành phố Cần Thơ, Việt Nam.

tqminh@tdu.edu.vn

Tóm tắt

Trình tạo văn bản thành nhạc là một hệ thống trí tuệ nhân tạo (AI) sáng tác các bài hát từ các lời nhắc văn bản do người dùng cung cấp bằng cách tận dụng các tập dữ liệu lớn để đào tạo. Nghiên cứu này khám phá nền tảng lý thuyết liên kết ngôn ngữ và âm nhạc thông qua phân tích ngữ nghĩa, cảm xúc và cấu trúc, đồng thời chứng minh tính tích hợp thực tế của việc tạo nhạc bằng AI vào phần mềm thông qua API. Để minh họa, các ví dụ mã Python mô phỏng được cung cấp bằng cách sử dụng API Suno AI giả định, cùng với các tham chiếu đến các nền tảng như Boomy, AIVA, Amper Music và OpenAI Jukebox. Những tích hợp này làm nổi bật cách các nhà phát triển và doanh nghiệp có thể nhúng việc tạo nhạc tự động vào các ứng dụng giáo dục, giải trí, trị liệu và phương tiện truyền thông kỹ thuật số, từ đó thúc đẩy nghiên cứu liên ngành và đổi mới phần mềm.

Từ khóa Tạo nhạc bằng AI, mã API AI, phần mềm AI,