



ADC²⁴
Bristol

ROLAND'S HOLISTIC APPROACH TO AI FOR MUSIC CREATION

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& KAZUYOSHI SASAMORI**

Our Presenters

- Paul McCabe, SVP Research & Innovation
- Ichiro Yazawa, Advanced R&D Group Leader
- Kazuyoshi Sasamori, AI Product Manager



 Roland

RFDL

**ROLAND FUTURE
DESIGN LAB**

VISION

Design the future of music creation technology by exploring and harnessing emerging trends, fostering innovation, and helping to shape the global creative landscape for the next 50 years.





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AI for Music: History

● Early 2022

Roland internal discussions around AI and guidelines

● November 2022

ChatGPT launch created heightened sense of urgency around AI development guidelines

● April 2023

Microsoft Build Conference awakened need for public-facing position on AI from Roland

● August 2023

UMG + YouTube partnership announcement led to outreach and co-development of guiding principles

● March 2024

Roland & UMG announce strategic relationship and publish The Principles for Music Creation with AI

Development Guidance

- Protect Human Creativity
- Respect Intellectual Property
- Promote Transparency
- Encourage Sustainability
- Enable Community Feedback

1

We believe music is central to humanity. Enjoying and creating music is integral to our health, well-being, and happiness. Music provides a human connection to each other and the world around us and is deeply personal.

2

We believe humanity and music are inseparable, and music with true meaning cannot exist without the direct creative contributions of people.

3

From acoustic to electronic instruments, **we believe that technology has long supported human artistic expression, and applied sustainably, AI will amplify human creativity.**

4

We believe that human-created works must be respected and protected, and they uniquely merit copyright protections. The use of copyrighted works – and use of the music artists’ name/image/likeness/voice by others – must be authorized in advance of the use and music artists should be given recognition for their contribution.

5

We believe transparency is essential to responsible and trustworthy use of AI. In order to establish and maintain trust across all stakeholders, from fans to artists, AI-powered creative platforms and policies must prioritize record keeping and disclosure while shining a light on those who create.



6

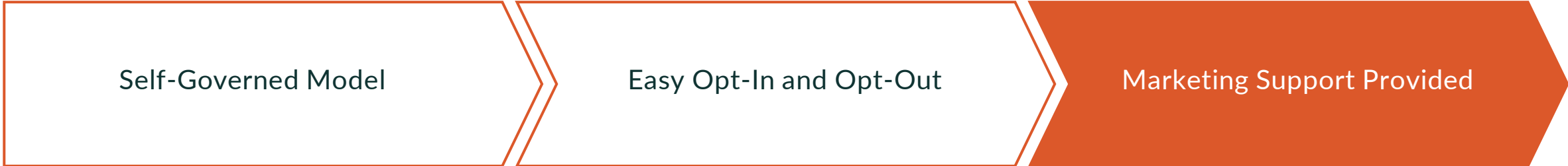
We believe the perspectives of music artists, songwriters, and other creators must be sought after and respected as AI-powered creative experiences are imagined, strategized, planned, and implemented.



7

We are proud to help bring music to life. Together, through the musical instruments we produce, the artists and songwriters we represent, and the music education programs we support, we inspire and enable creativity.

Governance Model



Support



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[PRINCIPLES](#)

[SUPPORTERS](#)

[CONTACT](#)



Principles for Music Creation with AI

The Principles for Music Creation with AI establish a guideline for the responsible use of Artificial Intelligence in music. By adopting these principles, companies and organizations commit to protecting the vital contributions of human creativity and to the responsible development and application of artificial intelligence for music creation.

Supporters

Associations:



Academic/Educational:







 **MassiveMusic**
A Songtradr Company


MATCHTUNE


MEDELI

 **Melodics™**

mono®

**music
tech
hub** *BCN*

my sheet music
transcriptions

NI NATIVE
INSTRUMENTS


NEURAL

neutone

 **novation**

Oberheim®

odiseimusic

 **output**


PENTATONE

 **Pozalabs**

Qosmo


RipX DAW PRO

roex®


ROLI

Setmixer

SEQUENTIAL

 **Songtradr**

Sonnox

 **SOUNDCLOUD**

 **Soundful**

 **SoundID VoiceAI**


soundlabs.ai

 **SOUNDRAW**

SPITFIRE AUDIO

 **splice**

TEISCO


TRACKLIB

tutti

TWOSHOT

 **unisound**

Virgin
MUSIC
GROUP

 **v-moda**

 **vocalist.ai**

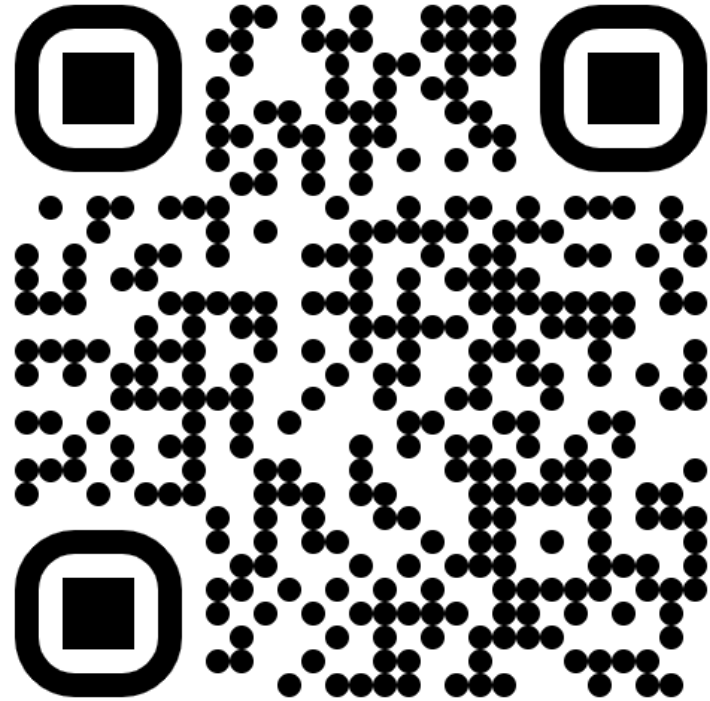
voice  **swap**



What's Next

- Information Webinars for Supporters
- Listing of Fairly Trained Support Products and Services

JOIN US!



<https://aiformusic.info>



Music Provenance Project



UNIVERSAL MUSIC GROUP

Background

We are facing a groundswell in AI music generation apps who potentially make use of copyright-infringing data for model training

- Generative AI tools are used for crimes and more
- Digital Fake(Use of the voices of famous artists without permission)
- Copyright issues caused by generative AI (AI training data, AI output)
- Negative impact on artists and creators



Why Music Provenance is necessary

~Protecting the Value of Human Creativity ~

- Support the application of GenAI to enhance human creativity
- Identify and communicate music assets authenticity
- Enable transparency of GenAI model training data
- Support increased revenue from musician's IP
- Create new opportunities for Superfan engagement
- and more . . .



What we are studying...



UMG and Roland jointly build an open system for identification and attribution of music assets at the all stages of the music creation process:

- Formats for expressing origin and ownership of music
- Develop a system for collecting, registering, and displaying the provenance of music assets with some existing standards.
- Label content and make it visible to users
- Realize a mechanism that allows creators to share in revenue in accordance with provenance.

Example...

CHOCOLATE MILK

50% CHOCOLATE MILK

Ingredients: Cane Sugar, Cocoa Butter, Cocoa Beans, Whole Milk Powder.

CONTAINS MILK.

Made on equipment that also processes peanuts and tree nuts.

Trade
Logo

Organic
Logo

Certificate
Logo

Ingredients

Disclosures

Your New Song

By AI Franky

Composer: Paul McCabe

Lyric: Kazu Sasamori

Lead singer: Hiro Tashiro

Lead guitar: Nao Arima

Keyboard: Ichi Yazawa

Bass: Tak Yamashita

Drums: **AI Rhythm Maker Plugin**

AI vocal model: Real Franky

Audio Phrases: Roland Phrase Library

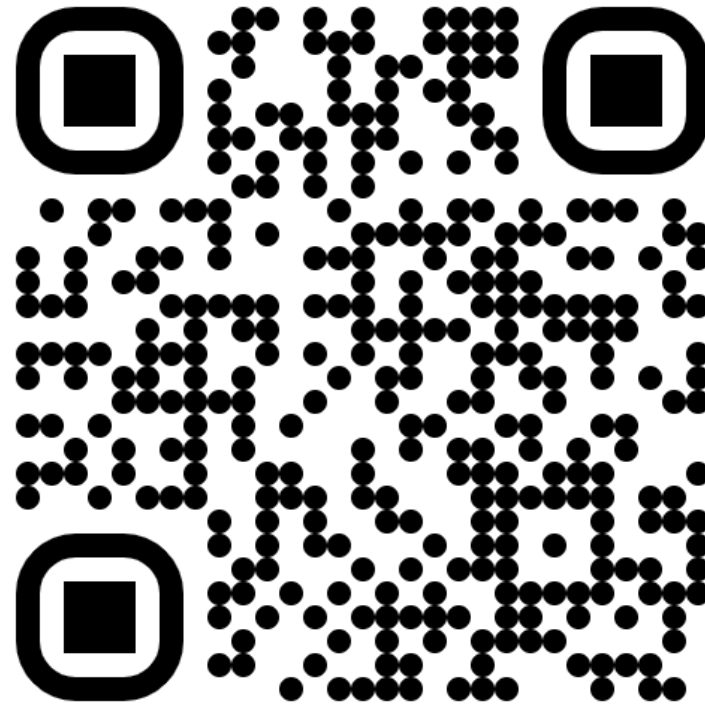
Music
Provenance
Info Logo

AI Training
data
Certificate
Logo

If you are interested in Music Provenance...

Please visit AI for Music site, if you agree with principles, please join us.

<https://aiformusic.info/>



AI-Assisted Tone suggest

Question :

Are you good at choosing
the Tone of Instruments?

Roadblock of “Tone” selection

Actually,

- No correct answer
- No way to learn
- No theory



⇒ There are a certain number of people who are not good at it

Why ?

10Tones

Piano	Organ	Guitar	Bass	Strings	Sax	Trumpet	Synth Brass	Synth Lead	Synth Pad
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If there are only 10 Tones: All can be compared => Easy to choose

STONE EXPLORER

Demo

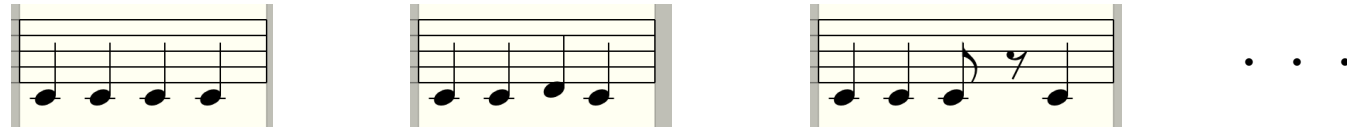
- From 3,500 Tones to about 10 Tones → It should be much easier to choose now
- The final selection is made by your own will = Your own choice This
- APP is not "selecting the right one"
- It's simply "increasing opportunities to encounter sounds."

Inspiration

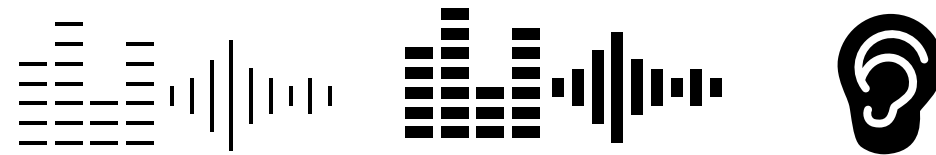
- People choose Tone based on phrases
= there's a correlation
 - Hypothesis: Tone selection correlates with phrases
- Can we create an index based on the correlation between phrases and Tones?

Challenges in Development

- Phrases: Many types, hard to distinguish



- Tones: Vast amount of information for voice recognition by Ear

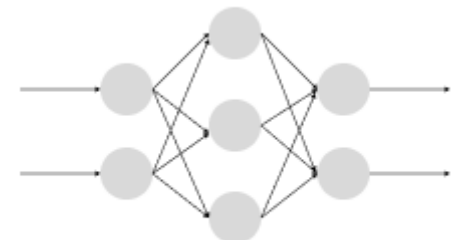


- \Rightarrow Both are too massive for algorithms to handle

Challenges in Development

- Technology to handle vast amounts of data = **Neural Network**
→ Can we achieve this using Neural Networks?
- An approach to show correlation based on audio and MIDI
→ Is a **multimodal approach** necessary?

⇒ Consult with Qosmo



Neural Network

Qosmo

AI Creativity & Music Lab

<https://qosmo.jp/>

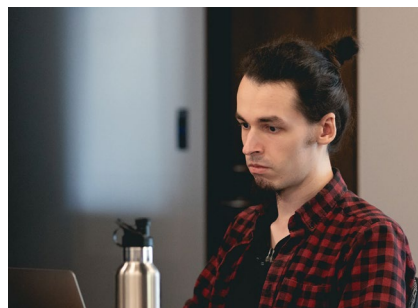
Qosmo AI Creativity & Music Lab is a Tokyo-based collective consisting of AI researchers, engineers, artists, and designers, working on expanding human creativity using AI and exploring unknown music.



Nao Tokui
CEO



Naoki Ise
Senior Designer

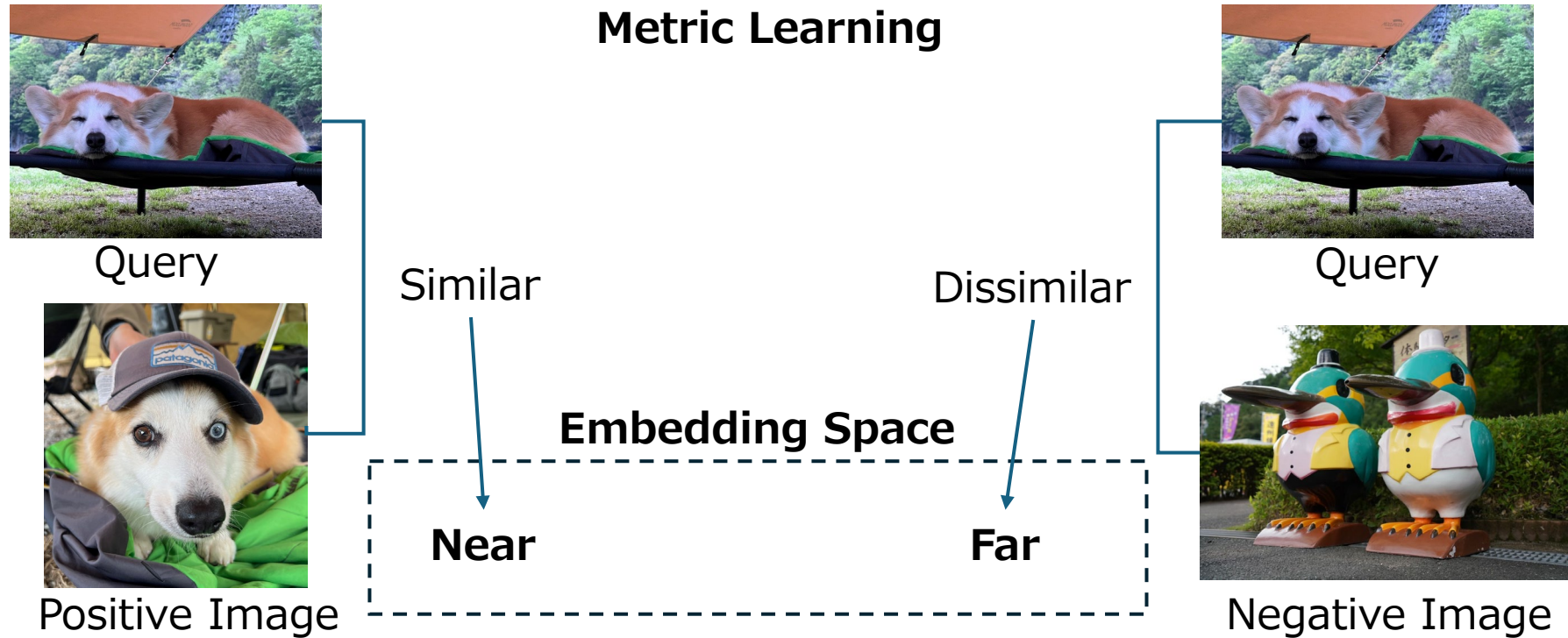


Bogdan Teleaga
Senior AI Engineer



Naotake Masuda
AI Researcher

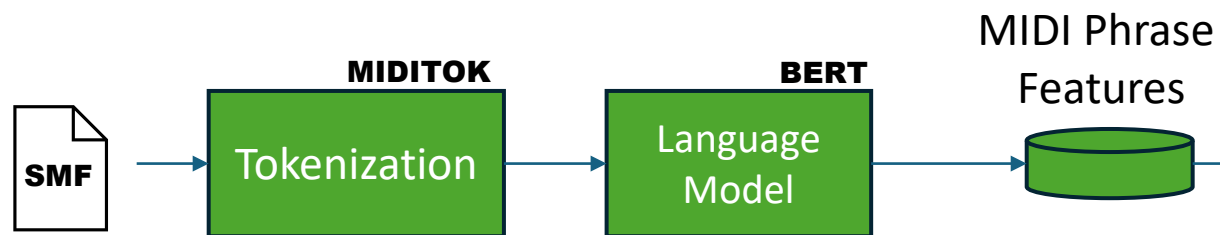
When discussing initial ideas,
Dr. Tokui suggested applying metric learning



⇒ Started development as a collaboration project



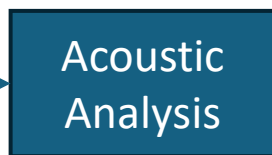
Model



All SMFs used for training are Roland's property.

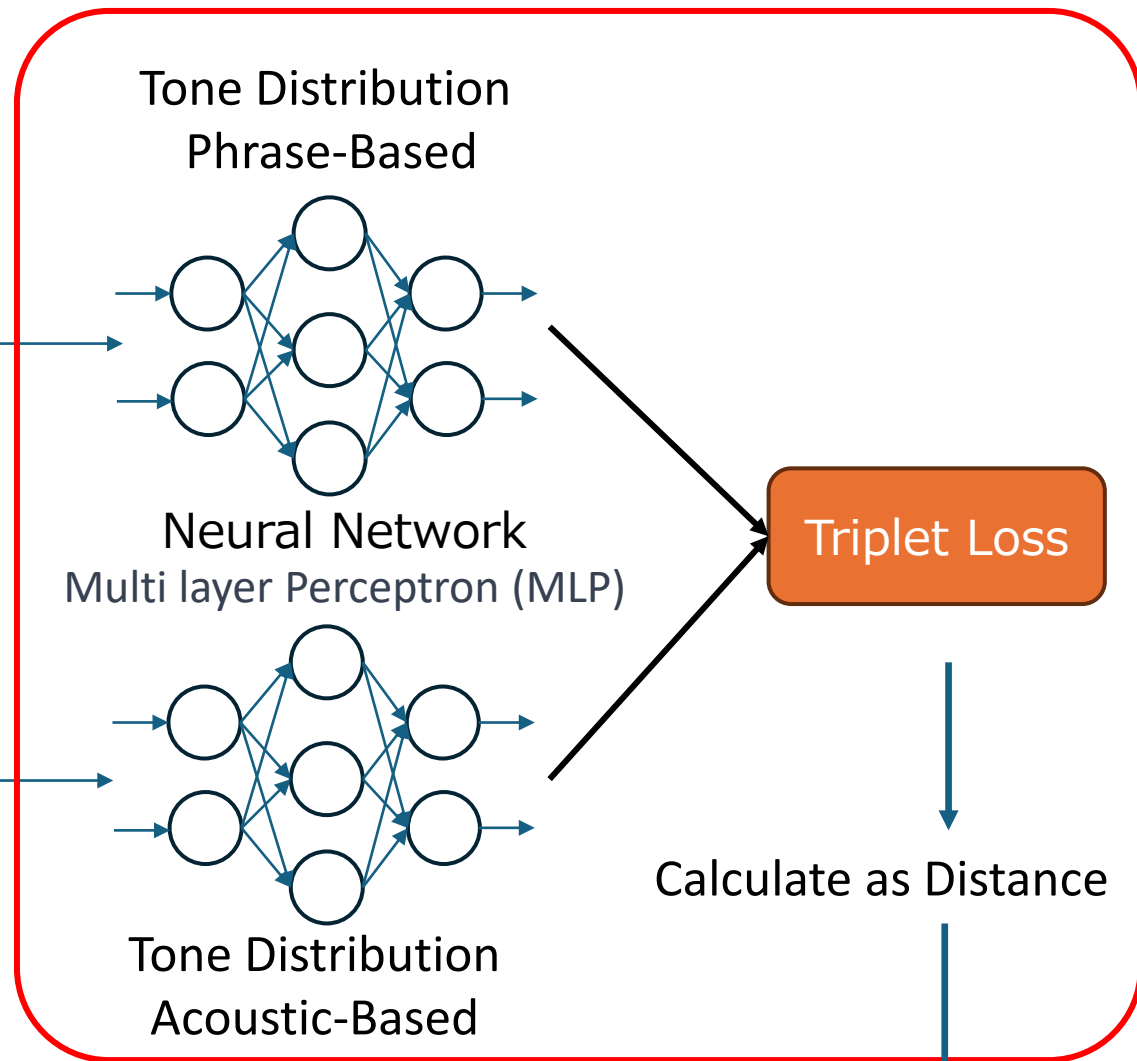


3,500 Tones



Note: This model is patent pending.

Multimodal Metric Learning



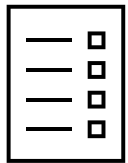
Indicator of correlation



App

MIDI Phrases

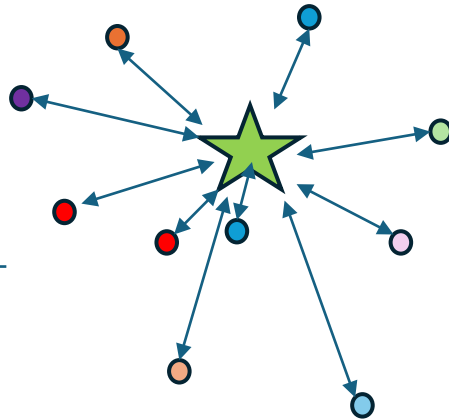
List



Trained Model

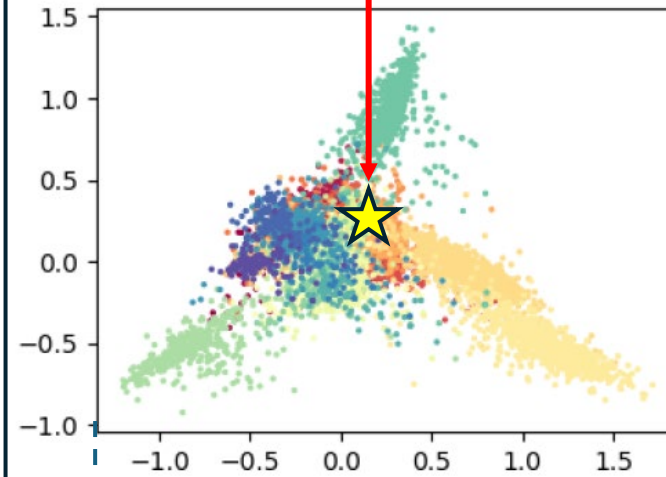
Tokenization

From MIDI to Numerical Sequence



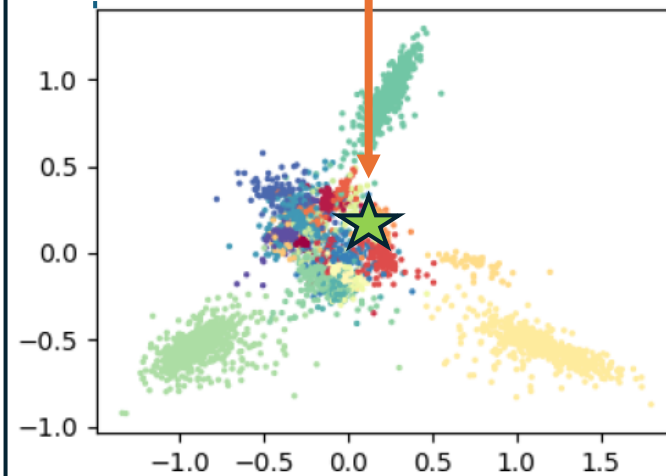
Get distances from point to each Tones

Around here semantically



Tone Distribution
Phrase-Based

Corresponding position is here



Tone Distribution
Acoustic-Based



Note: This model is patent pending.

All rights reserved by Roland Corporation

Summary

- Expanding electronic musical instrument possibilities with AI
- Aim to support users and deliver better results

TONE EXPLORER Development Team

Kazuyoshi Sasamori
AI Product Manager



Ichiro Yazawa
Advanced R&D
Group Leader

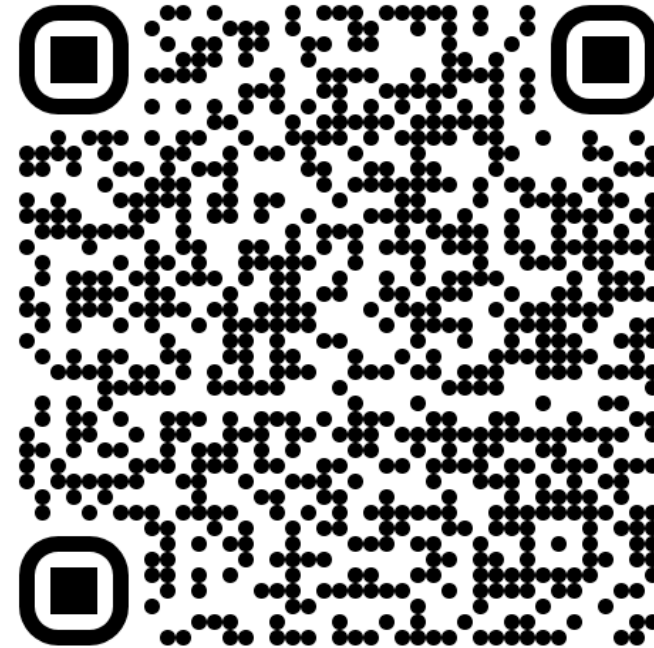
Naoki Arima
FE Programmer

Hiromi Tashiro
Solution Architect

Try it!

- Public release as Technology Preview on November 12th!
- Integrates with Roland Cloud's Super Instrument **GALAXIAS**
- Get your trial code via QR code

Please try it out! ->



In Conclusion...

- **Roland's Holistic AI Approach**
Innovation, Policy, Governance
- **RFDL is growing!**
Speak to us about the latest career opportunities
- **Thank you!**
It's a privilege to be here with all of you!

