

## ROLAND'S HOLISTIC APPROACH TO AI FOR MUSIC CREATION

PAUL MCCABE, ICHIRO YAZAWA & KAZUYOSHI SASAMORI

#### **Our Presenters**

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



#### **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.





# aiformusic

#### **Al for Music: History**

Early 2022

Roland internal discussions around Al and guidelines

April 2023

Microsoft Build Conference awakened need for public-facing position on AI from Roland March 2024

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

November 2022

ChatGPT launch created heightened sense of urgency around AI development guidelines August 2023

UMG + YouTube partnership announcement led to outreach and codevelopment of guiding principles

#### **Development Guidance**

- Protect HumanCreativity
- Respect Intellectual Property

- Promote Transparency
- EncourageSustainability

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 Al-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**

Self-Governed Model

Easy Opt-In and Opt-Out

Marketing Support Provided

## Support





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:**



MIDI<sup>®</sup> Association

#### Academic/Educational:

**CALARTS** 







musicfirst







**%** ACE Studio



**Ampify Music** 











































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**≅**HITMKR









**Husic** 



kits.ai **K** 



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SOUNDCLOUD



★ SoundID VoiceAI



**MSOUNDRAW** 

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tuttii

TWOSHOT -



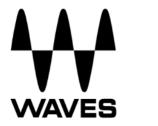






voice | swap







#### **What's Next**

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

## JOIN US!



https://aiformusic.info



## Music Provenance Project



## Background

We are facing a groundswell in Al 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

- $\sim$ Protecting the Value of Human Creativity  $\sim$
- Support the application of GenAl to enhance human creativity
- Identify and communicate music assets authenticity
- Enable transparency of GenAl model training data
- Support increased revenue from musician's IP
- Create new opportunities for Superfan engagement
- and more . . .



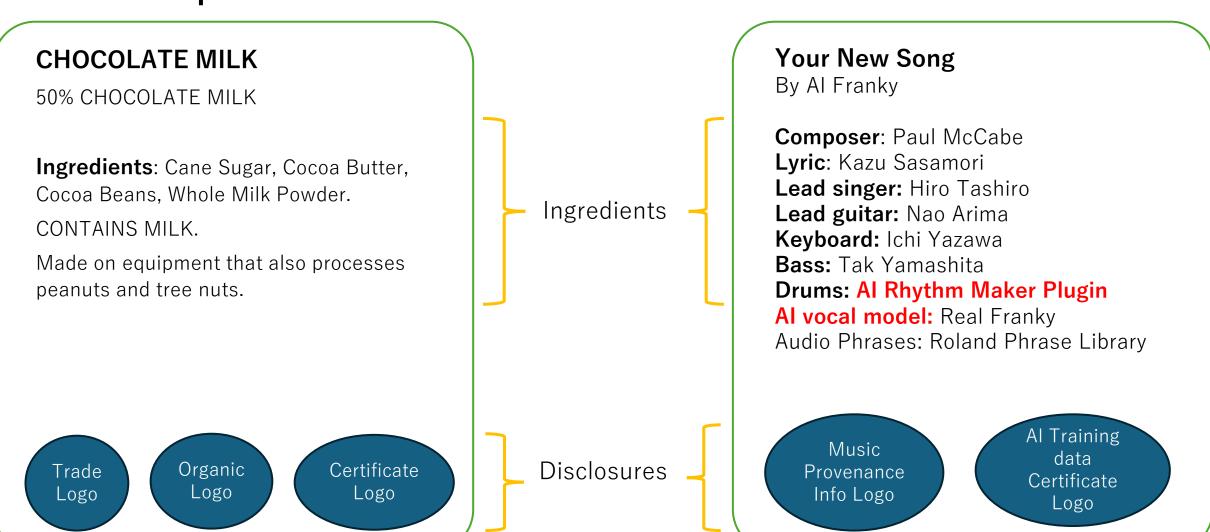
## What we are studying…



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...



#### If you are interested in Music Provenance…

Please visit Al 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 Synt	th Lead Sy	nth Pad
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If there are only 10 Tones: All can be compared = > Easy to choose



## Why?

#### 3,500 Tones

Ac.Plano E.Plano1 E.Plano2	E.Grand PlanAccordion	Bell Celesta	Clav	Ac.Guitar E.Guitar	Dist.Guitar	Ac.Bass	E.Bass E	.Organ Ensemble	Br. Ensemble St Flute	Harmonica	Harpsichord Hit	Mallet	Orchestr	al Percussion	Phrase	Pipe Organ Plucked/Str	rc Pop Plano	Pulsating Recorder	Reed Organ	Sax	Scat	Solo Brass Solo Strings	Sound FX	tadk Syr	nth Bass Synti	h BellpaSynth Bras	ss Synth FX	Synth Lead Sy	nth Pad/SSynt	h Pluck Synth Polyk	Vox/Choir Wind	Beat&Groove Z	one Drums
Ac Pop Piano Dyno EP FM EP 2	Piano 3 AX Musette	FM Sparkles   Celestabo	K Twah Clay	Nylon Guitar Chorus C	Str   Searing Gtr 2	2 XV Ac Bass	Finger EBs 1 P	erc Rotary O Sax Section	n 2 Small Strings  Flute	Echo AX Harmoni	2 St.Harpsichd   Phase	er Syn M Swing se	t PB  Chamber	Plyrs Ceremony T	m Step Arabesq	Grand Pipes   Santur Stade	k E-Grand	SBF Autoarpe AX Recorder	Reed Organ	Alto Sax	Jazz Doos	MajesticTpt   AX Violin	FX 1	kend Quartet Bt	Subby Linear	r Synth (Bit Brass	Sweep Trap	SFat Mask LeadSh	ne Pad Feed	back Plu(Stringbell Sy	Oohs Chord   Chamb	erWoo Variable Run  P	SK SE Kit TR-808 comp
AX Plano Phase EP 2 FM EP 1	Plano 3 w AX Musette	Snowflakes Celesta	AX Clay 1	Comp'Steel Jazz Gtr	Dist Gutar 2	Acoustic Bs 1	Pick Bass 1   G	iospel Spin   Biggie Bras	as XV Strings   Pop F	lute Harmonica	AX Harpsichol 9ysCt	triDeep E Pop Synti	hMai Film Orch	Dyno Toms	Step RazorBs	PositiveOrg/M/AX Koto	Metal Key	Liting Vo&Syr Recorder	Reed Organ v	AX Tenor Sax	Pop Voice	AX Trombone Violin Cello	FX 2	ovely Stack   Cris	zzie Bass   Fanta	sia 2019Horn Blast	Breathy Bub	b Brassy VA LedSar	wchestra 8th 9	Rack Seq Kaihou Keys	Syn VoiceLearOboe	Modular Seq T	rop-House S TR-909 w con
Mono Piano Wurly EP FM EP 2	Plano 3 w 2 Accordion 1	X-Mod Bell 2 Celesta w	AX Clay 2	AX Nylon Gtr AX Clear	Gut Dist Gtr 1	Acoustic Bs 2	XV Fredess L	ord Organ 1 Tp&Sax Se	et   AX Strings StaPan P	ipes   Harmo Blues	St.Harpsichd 1Note	e Phasen AX Steel	Drur Symphon	ique Perky Noize	Synth Quarter	PositiveOrg /NAX Star	JD-800 Pan	o Dancing PS   Whistle	Trad Reed On	AX Soprano S	AX Jazz Scat	Trumpeter   AX Violin	FX 3	motion Quot Da	rk Sub D-50	Fantasia J X Cream	Mysterions	X-MOD Lead Tre	smolo Soft (Shor	t Sqr PlutP5 Soundtra	Voice LeadS Clarine	Flag Wave	Standard Kit
128voice Pno Dyno EP S.A.E.P.	70s E.Grand   Accordion 1	vMusic Box Pure Celes	ta Twah Clav	AX Nylon Gtr :Pick Gut	tar   Searing Gtr 1	1 Nylon Bass	Finger EBs 1	ord Organ 2 Brass Sect	AX Pizzicato  Pan P	ipes BreiBluesHarp	3PartInventn   AX Or	rchestra AX Marin	iba  Film Laye	rs   Slap Timps	Vox Step Lea	Grand Pipes   AX Aerial Ha	n AX Honky-ti	or PS Modulation Whistle Dly	Reeder Organ	AX Alto Sax	Jazz Doos	AX Romantic AX Viola	EX.4	lajesty Stack Wu	ib Bass   AX Dr	reaming RetroFuture				Stack Seq Trance Synth		of I	Trap Kt
Bright Plano Stage EP Stiky EP	Accordion 2	FM Sparkles	Phase Clav	AX Nylon Gtr IST Guta	r Searing Gtr 2	2 Ac.Upright	Finger E Bs 2 P	erc Rotary O'Soft Ac Bra	ss Strings 1 Bag S	haku LeHilbilys	Harpschord   AX Ba	ass Ht   Warm Vi	es  Full Orch	est  Timpani	Running Mod	Cathedral   Lost Paradis	e DNC Plano	XMod2 Seq 2 Ocarna	Body Reeder	AX Tenor Sax	Bop Voice	AX Mute Trun AX Cello	FX 5	uffpipe Ds	t.808 Style D-50	FantasiaWide Syn B	Bra/Chiptune r	Buzz Lead Arr	ibien 8th 9	stack SeqSine Pluck	Syn Vox 1 Oboe 6	xpress	R&B Kt
Classique AX Vintage EfDig EP	Accordion It	Snowflakes	AX Pulse Cla	w Folk Gtr 1 Funk Gtr	F Searing Gtr 3	3 XV Upright	Finger EBs 3 R	otary Org 1 Sax Section	n 1 Strings 2 AX Sh		VCoupled HarpAX 6t				Progressive S	Church Pipes   Santur Stade	Blend Plano	Sth Stack Ocarna Ech	Timed Organ	Breathy Sax	Pap Vaice	AX Trombone AX Contraba:	aFX 6	ruly Moving Raz	zor BassLei AX Fa	intasia   Soft Brass 2	2 Bit Walker	Bendy Mod P(For	mant Pad MG 1	Thumper Wide Pluck	AX Choir 1   Clarine	: mp	Pop Kt w
Nice Piano Phase EP 1 Nylon EPiano			AX Pulse Cla					otary Org 2 Sax Section			Harpschord vIAX Ta	ao Hit   AX Marin	ba Henry VI	1 Timpani Lo	w Escape	pp Harmonius AX Koto	E-Grand	Step Beat   Lure	Holiday Org	AX Bantone 9	Scat Dow	Majestic Tpt   Voicey Pizz	EX 7							cho Seq Mino Key	Angels Choir ClanEx	press	Standard Kit
Piano Thang Phase EP 2 Nylon EP		X-Mod Bell 2	Sweepin Clar					lotary Org 3 JAX Brass A			Harpschord v Min71	Ht AX Xylopi	hone Prelude	Timpani At		Church Harm(AX Shamises	n Metal Key	Step Sicer 1	1	Sop.Sax mf	Doos	Voluntare   VolinCello	FX 8	X-9	40D2 Bass AX Or					Atk Pluck AnalogAtmo	(AX Choir 1   Mitzva	Splt	Room Kt
PianoStrings Phase Stage MK-80 EP	Bandoneon v	wAX Tubular Be	Pulse Clav	Steel Gtr WideLetterFri	mPat  Digi Dist Gtr	Acoustic Bassi	Pick Bass 2   0	lid Fashion  2Trumpets	AX Small Strict/VOX F	Flute Bluesy Reed	Harpsichord dAX Ma	bjor 7   AX Steel	DrunjStr&Brs (	Irch  Steel Drum	s	Cathdr Harmi AX Star	Power Gran	d  Step Sicer 4	1	Alto Sax	Scat Flute	Mute TP mod   Violin	FX 9	X-5	fod Wave (SL-D!	50 1   80s Brass 1	1 Kidk/Snare	Edge Boost  10	5 Strings  SEQ	<ol> <li>Juno Poly Str</li> </ol>	(AX Choir 2   Chamb	erWind	Power Kit
Bs/Pno+Brs AX Tremolo E MK-80 Phase	er Nostalgic Acc	cBell 1	Comp Clav	12-str Gutar Jazz Sca							Elegant Harps Orch I							Step Sicer 8				Harmon Mute Slow Violin		Sof	t Bass   SL-D!			Windy Lead AX			Angels Choir Chamb		Electric Kit
Echo Piano Psycho EP Delicate EP		Bell 2	Klavinet					Intage Organ Tp&Sax Se				Ht 1 Toy Box				Church Organ AX Aerial Ha	E.Grand	Bass Seq				Trombone Voln w		Ds	t.8083tyle(SL-D!	50 3 Juno Brass		7th Stack Lea/PW			Vox Pad 1 French	Bags	Analog Kit
Upright Pno SA EP Octa EP 1		Bell 3		Gtr Strings DC ST Gt								Ht 2 Toy Box				Church Organ Lost Paradis	e MID led Gra	nd Rhythm 1				Ballad Trump Volin Amp	FX 12		1 Growl Baj SL-D!			Air Lead AX			U-Ahs/Mod  Flute/0		Jazz Kit
Grand XV Wurly EP Octa EP 2		Bell 4		Steel Away Twin ST								Ht 3 Ethno Ke				Church Organ AX Kalimba						Trombone Att Viola	FX 13			50 8  Poly Brass 2					Vox Pad 2 Orch F		Brush Kt
Contemplate Dist Wurly 3V EP+		Bell 5		Heavenly Gtr DV ST Gt								Ht 4 Ambiena					West Coast	World X		Sax Section		XV Trombone Viola Amp	FX 14		zor BassLej Fanta			nJOSC Sync 3  10			Oh-Aah /Mod Wind V	/ood	Orchestra Kit
Rock Plano SL-Jn60 4 EP+Mod Pad	i	Bell 6		12str Gtr 1 Syn ST 0							House	e Ht 1 Warm Vt	oes HybOrche	stra Concert BD		Church Organ Drone Split		Xadecimal		Bigband Sax		XV Trumpet   Cello	FX 15			ssy 2 Juno P18 B				7 Clean Me	AX Aerial Cho/Lonely	Oboe	SFXKit
RockPano Ch St-3n60 5 Mr.Mellow		Bell 7		12str Gtr 2 Rotary G							House	e Ht 2   Dyna Ma						2   Metal Sync		Sax Choir		Brass Tubes   Cello Amp	FX 16			ssy 3  Apolis Brass					AX Synth VoicOboe		Standard Kit v
Planomonics St-Jn60Bell1 D-50 EP		Bell 8		Solo Steel Muted G					Somber Str Legati		LoFi H			Bra Melodic Tor			Hanky-tank			Blue Notes		Trumpet Contrabass	FX 17	240	Db Mini LagFanta	ssy 4   AX JP Brass					VP-330 Choir Oboe v		Room Kt w
Piano+SftPad SL-Jn60Bell2 Innocent EP		Bell 9		DesertCryst   SwtchO			Fretis Dry D		Srp Marcato Ambie	ence Fit	Blow	Hit Nomad P	erc	Meiodic Tor		Soft Pipe Orga Duicimer				Solo SoprSax		Trumpet Echd Contrabass A	4 FX 18	Dirt	t Sub 3   Fanta			AX Jupiter Ld Sof			Syn Vox 1 English	Horn	Power Kit w
WarmVoxPanFM EP 1 Echo EP		Bell 10		Soft Nylon Velo-Wa				list Organ Royale	Bright Str   The A		4 Hts	s 4 You   Islands M		Synth Drun		Pos Org A /Mil East Melody		w Auto Pluck		Solo AltoSax		Dark Trumpe Fiddle	FX 19			ssy Pad   AX Soft Syn					Syn Vox 2 Bassoo		Electric Kit w
Y2K Concerto FM EP 2 See-Thru EP		Bell 11		1 Nylozzicato Clear Gu				uno P14 Org Brass Mute			Impac	st Steelin K		Synth Drun		Pos Org B /Mc MandolinTre		Step Beat		XV DynoTeno		Dark Trumpe Fiddle w	FX 20			Key! Bright Syn I					Org Vox Clarine		Analog Kit w
Piano+AirPad FM EP 3 FM BeilPano		Bell 12		2 Mutezzicato Solo ST				-50 Organ  Simply Bra			Phase	e Hit   Steel Dru		TR-808 Tor	n	Pos Org O /M/Harp On It				Honker Bari		Romantic Tp   Pop Violin	FX 21			ool Pad   Filter Env B					Oohs Chord Bagpip		Jazz Kit w
ChoraLeader FM EP 4 Ring E.Pano		Bell 13		Hybrid Nylon (Plug n' F				0's E.Org 1  FullSt Bras				o Ht 1 Exotic Ve		Elec.Perc.				-RSide Chain Pal		Full Saxz		Romantic Tp (Pop Viola	FX 22			Stack   80s Brass 2					Vox Noise Bagp p	e w	Brush Kt w
Power Octs FM EP 5 SparklePiano	0	Bell 14		z XV SteelGt 1 Fab 4 G							Tekno	o Ht 2  Echo Vibr		Reverse Cy	m	Winds Pos East Europe				LA Sax's		Trombone 1   Pop Celio	FX 23			Babe  80s Brass 3					Sample OperaShana		Orchestra Kit

- In case there are 3,500 timbres: Huge!
- There are too many to memorize: Not Easy

⇒ What if instruments could choose and suggest themselves?

EP LOVER	Agogo W	DEC GT   NZ	urgan 2		Thick Park			Car Pass	SC-3P8 6 Gass Office Analog Brs 3 Kunaway Kez Air Lead SC-090 10 Seq 2 SC-3P60/SyN4 VP330 Octoo	KKK
EP Wah	Holy Bells	Dist Jumper	Organ 2 Ray		LFÓ Rippie			Car Crash	SL-JP8 7 Belly Pad Analog Brs 4 (Dropplets AX Soft Lead JP8 Strings 1 Seq 3 SL-Jn60Syn5 Sute Combo	Kick w
Vint. Brite EP	Vintage Bell II	É Lead Flame	Ana Organ 1		JayMe Jay			Sitten	SL-JPB 9 Spectre OB Brs (Indian Guru   Soft Sgr Lead JPB Strings 2   Seq Sgr 1   SL-D50 6   Jet Vexs	Snare
Brite EP Phase	Concert Tubu		Ana Organ 1 (		Karmalog			Tran	SL-JP Bass 1 D-2000 Euro Express Cosmic Rain Tri Lead 1 JPS Strings 3 Seq Sqr 1 At St-D50 7 Whisper Vox	Snare w
Brite EP Flanc	Tube RingMod		Ana Organ 2		MINIM-L			Jetplane	SL-JP Bass 2 Fantasia Syn Brs 1 Trying Winds Tri Lead 2 JPS Strings 4 Seq Sqr 2 SL-D50 9 Choir 1	RimStckClap1
Sutcase EP O	XMod2 Soft Bi		Ana Organ 3		Trance Staff			Jetplane Dly	SL-JP Bass 3 D50 Bell Syn Brs 2 Space Whiz Solo Nz Peako JPS Strings 5 Seq Tri Saws Key 1 Choir 2	RimStickClap1
Bright Tines	Synth Bell 1		Ana Organ 4		Radanceky			Staship	SL-JP Bass 4 D50 Bell w Syn Brs 3 DigitalDrone Whistle Lead JPB Strings 6 Seq Tri w Saws Key 2 Choir 3	HHat Cymbal
OD Push EP			Perc.Organ 1		12303			Staship Dly	SL-JP Bass 5 Fantasy 1 Syn Brs 4 Space Race   AX Spooky Lej JPB Strings 7 Synth Seq 1 Savs Key 3 Humming	HiHat Cymbal
PowerTine Mc			Perc.Organ 18		Experiment			Burst Noise	SL-In1066 D50 Fantasy Syn Brs 5 Bowed Bell Sine Lead 1 JP8 Strings8 Synth Seq 2 Saws Key 4 Synth Voice	Other Perc 1
EP Touch 8va			Chorus Organ	i	Pulserelay			Passing By	SL-Jn106 7 D50 Fantasy Syn Brs 6 X-Tension Sine Lead 2 JP8 Strings9 Synth Seq 3 Saws Key 5 Analog Voice 1	Other Perc 1 v
Phase Dyno			Perc.Organ 2		Jazz Bubbles			FX Pass 1	SL-Jn1068 Soft Bell Syn Brs 7 DUBIII Simple Sine JPBStrings10 Analog Seq Savs Key 6 Analog Voice 2	Other Perc 2
LoFi E.Piano			E.Organ 1		Psychoscilo			FX Pass 2	SL-Info 6 Dreambel Syn Brs 8 Dream Diver Sine Atk Lead J PSStrings11 Detune Seq Savis Key 7 Aerial Chor	Other Perc 2 v
Flanger E.Piar			E.Organ 1 w		PiZoon			FX Pass 3	SL-Jn60 8 Dreambell w Syn Brs 9 Flashback Dist Stadk JPBStrings12 Uni+G Saws Key 8 Aerial Choir w	INITIAL KIT
Vintage Phase			E.Organ 1 Rtr		Weiding Bell			FX Pags 4	SL-Jn60 11 Dreaming BoSyn Brs 10 Goblins Buzz Saw JP8Strings13 Seq 4 Saws Key 9 DJ Soft Vox	Tech House K
Trem Wurly			E.Organ 2		Gia sephemia			FX Pags 5	SL-In60sub 1 Dreaming BoxSyn Brs 11 Cosmic Drops Buzz Nation JPBStrings14 Analog Poly Savis Key 10 DJ Soft Vox w	Rare Groove F
Wurly Chorus			E.Organ 2 Tre		Strobe Bell			Poly Sweep N	SL-Jn60sub2 Fantasy 2 Syn Brs 12 Echo Drops   OSC Sync 1   JPBStrngs15   Analog Poly D Lasesthroat   Syn Vox	Nontin Kit
			E.Organ 3		Sawfutter			Reso Sweep 0	SL-Jn60sub3 Fantasy 2 w Syn Brs 13 Echo Drops COSC Sync 2 JPBStrings16 Saws Key Poly Key 1 Syn Vox w	Long Verb Kit
			Mad Organ		Dronfied			Applause	SL-3n60sub4 Stacc Heaven Soft SynBrs 1 Echo Bell   OSC Sync 3   3P-8 Pad 1   Vintage Key   Poly Key 2   VP-330 Choir	Melo Techno I
			Rock Organ 1		Tri-Vector			Applause w	SL-3n60sub5 Stacc HeavenSoft SynBrs2 Echo Bell Cho/OSC Sync 4 JP-8 Pad 2 Analog Key wPoly Key 3 VP-330 Choir w	Telémo Kit
			Rock Organ Al		Alternative			Laughing	SL-Jn60sub6 (Liguid Stack, Soft Syn8rs3 Echo Bell Dly AX Sync Lead JP-8 Pad 3   Analog Key   Poly Key 4   FXM Voice	Synth Pop Kit
			Rock Organ 2		Acd Line			Screaming	SL-Jn60sub7 JD Bell Pad   Soft SynBrs4 Echo Pan   Sync Lead   JP-8 Pad 4   Bell 1   JP80 WaveSyrCat Voice	Synth Funk Ki
			Rock Organ w		Raggatronic			Punch	SL-Jn60 Bs1 Calling Bell Soft SynBrs5 Echo Pan ChoSync Tank JUNO Str 1 Bell 1 Atk Poly Syn 1 Cat Voice Wah	Lo-Fi Kit 1
			Full Organ Rtr		Blade Racer			Heart Beat	SL-Jn60 Bs2 Fair & SquareDyn SynBrs LFO Saw 2 krazy Brigh JUNO Str 2 Bell 2 Poly Syn 2 Drop Voice	Lo-Fi Kit 2
			Full Organ OC		S&H Pad			Footsteps	SL-Jn60 Bs3   Gentle FM   Quiet Brs   Keep Going   Dst Sync Lead UNO Str 3   Bell 3   Poly Syn 3   Aahs Pad / Mod	LoFi / Pop Kit
			Rotary Organ		[Syncrosonix ]			Gun Shot	SL-TB Saw 1 Manifest Brassrub Electrostar Oct Sync JX Strings Bell 3 Amp Poly Syn 4 Soft Choir	VintageHouse
			Rotary Organ	1	Fooled Again		1 1	Machine Gun	SL-TB Saw1 A Amethyst DrePoly Brass 1   Scream at meSync Mod   OB Strings 1   MusicBox KeyPoly Syn 5   Wide Choir Ashs	Karage Kit
			VHS Organ		Alve	1 1	1 1	Laser Gun	SL-TB Saw 2   Vanguard BelPoly Brass 2   Scream at mgMetal Sync LeOB Strings 2   MusicBox KeyPoly Syn 6   SBF Angel	Ozmo Kt



## TONE 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



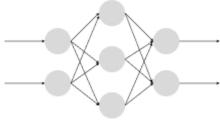
• ⇒ Both are too massive for algorithms to handle



#### Challenges in Development

- Technology to handle vast amounts of data = <u>Neural Network</u>
- →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

Al 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



**Bogdan Teleaga**Senior AI Engineer

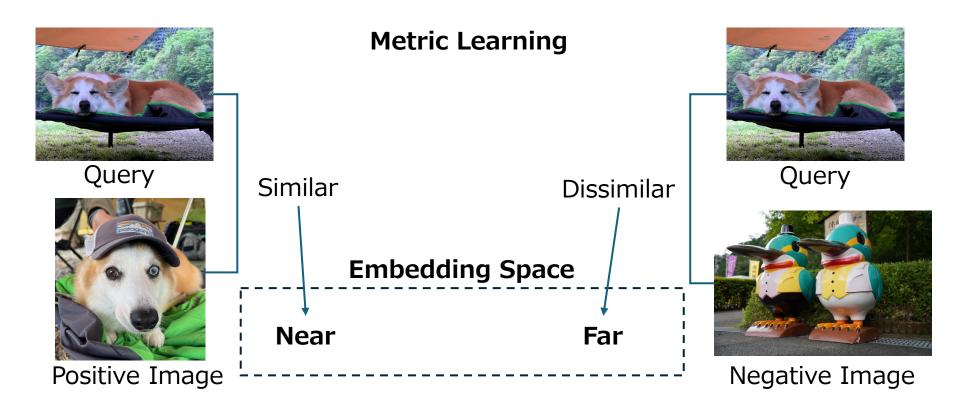


**Naoki Ise** Senior Designer



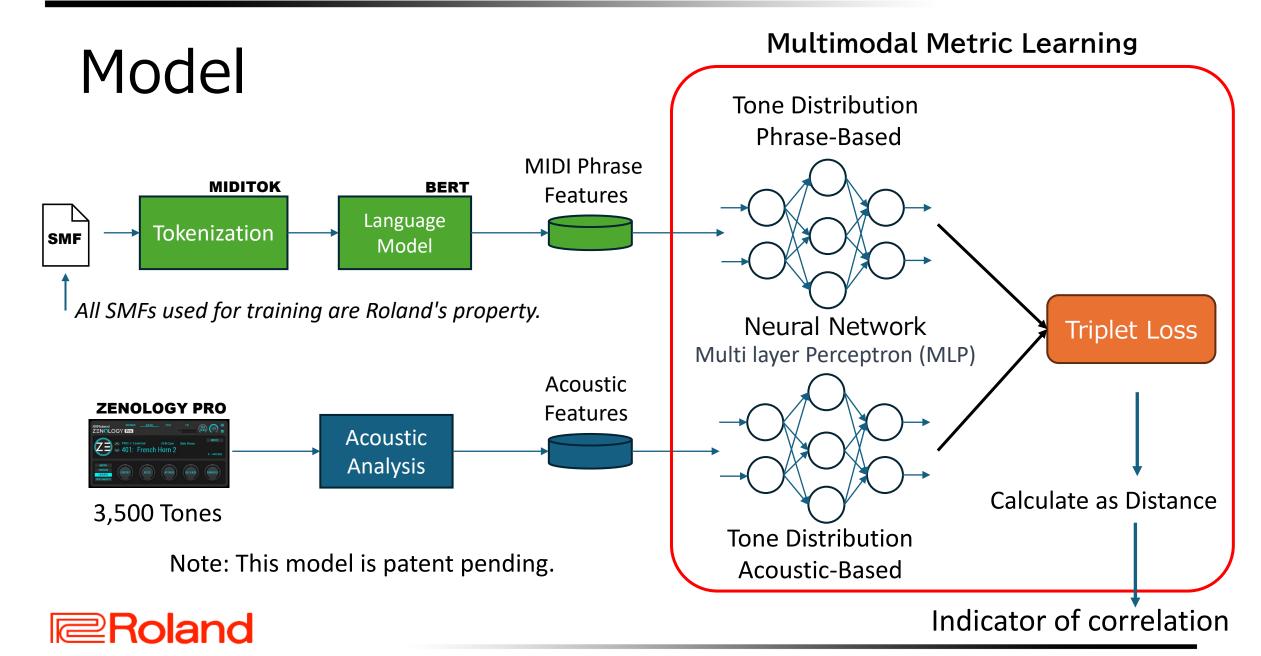
Naotake Masuda AI Researcher

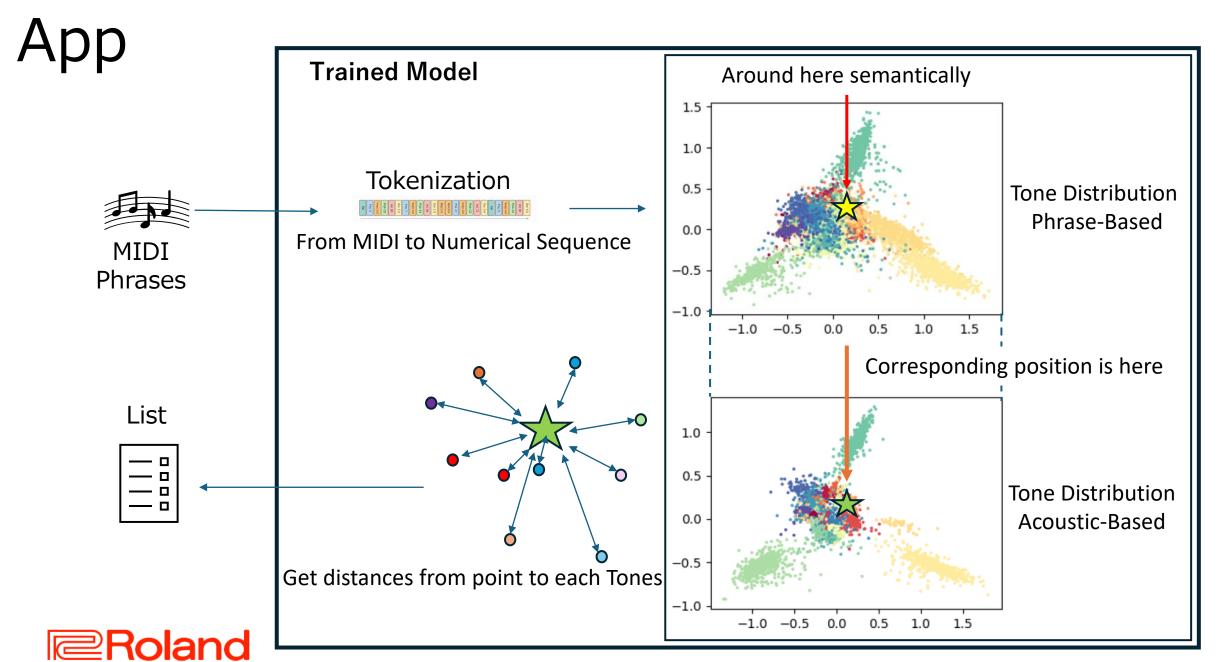
When discussing initial ideas,
Dr. Tokui suggested applying metric learning



⇒ Started development as a collaboration project







Note: This model is patent pending.

## 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** 



## 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 Al 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!



Brass

Mute Trumpet 1 w 58.764



