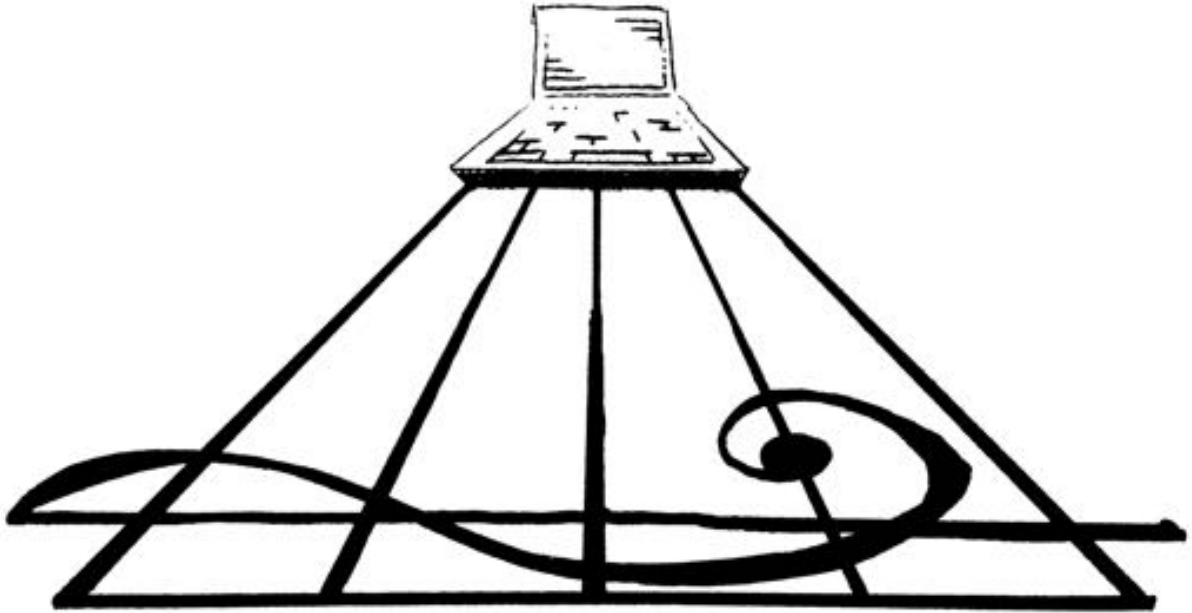


*The Society for the Preservation and Promotion  
of Machine Folk Music (v1.1)*



The *Official* Tunebook  
with Interesting Information about a Fascinating Hobby

The Society for the Preservation and Promotion of Machine Folk Music (v1.1) was established in 2020, with support of the project, *Music at the Frontiers of Artificial Creativity and Criticism (MUSAiC)* (European Research Council Consolidator grant ERC-2019-COG, No. 864189), Bob L. T. Sturm presiding.

August 19, 2021



# Praise for Machine Folk and The Society

- “I like to think that music comes from somewhere that’s living. Otherwise it’s... something else. Algorithms, computers - they’ll always be predictable. Not so much humans. ... My concern is that some people, somewhere and sometime, may consider one or more of these tunes - maybe all of them? - to be actual traditional tunes.” *Ergo*
- “The most useless piece of shit ever. Fuck off with that crap.” *fuckthat*
- “I don’t know whether to applaud or cry.” *John K.*
- “Machines aren’t creative as this proves.” *tz1*
- “Why. Machine art is not human therefore just a soulless imitation. If it imitates it cannot create anything new.” *worddust, Woodbridge*
- “Totally lifeless without warmth. Mind you much human tuneless junk that passes for music today isn’t much better.” *Mikeyt1941, London*
- “Isn’t music robotic enough these days?” *rocksnoop1, Dover*
- “Basically it’s crude turntabling without the sense of a musician familiar with the significance of various motifs & phrases.” *AB*
- “Jeez. A computer that noodles. That’s all we need.” *Mark M.*
- “This sounds like evil devil work.” *Jerone, LoM*
- “Music is sinful, teach the robots about the Lord.” *praise the lord, Chippenham*
- “Snacka om själ-lösa låtar... MUSIK.. Speciellt folkmusik.. Ska komma fram via upplevelser, traditioners djupa prägling. Upplevelser osv. Där människan är fokus, där folkmusiken präglar det traditionella kulturella livet. ... När jag ser sådant här blir jag antingen förbannad eller skitskarp. *Stefan J.*
- “Let’s make all humans redundant, brilliant! Has everybody really lost their soul?!” *pen, somewhere*
- “This takes away possibilities for real musicians to compose Music and earn a living!” *Per S.*
- “Correct me if I’m wrong, but isn’t music supposed to come from the soul. Isn’t it an expression of our humanity aren’t the sentiments expressed supposed to touch us and make us empathise with the song writer/singer. AI generated music does none of those things, therefore it’s pointless. It’s like comparing a machine made chair to a Chippendale. Yes you can sit on both of them, but the beauty of a handmade, beautifully crafted chair cannot be compared to a mass produced conveyor belt item.” *babsg, Newcastle*
- “I think there is still some hope for humankind... Truthfully, if I learnt a tune by mistake that was written by a computer I would drop it. There are too many great tunes with a human story. A tune named “Johnny O’Leary’s” will have at least some connection - how it got from there to here through people. A tune called “Macbook Pro’s” just doesn’t have the same allure.” *bogman*

- “This computerized AI is just so non musically untalented lazy nerds can infiltrate the world of true musicians who love, created, and write the music from the joy, hurt, and life emanating from their hearts.” *Radar Also, Hemet*
- “I would suggest confining your computerised efforts to the archives of whichever University you are at.” *anonymous*
- “Can we not technologically tamper with everything that is good and pure in this world? A computer farting out generated tunes in some academic lab somewhere is the beginning of the end. ... The sooner this experiment is confined to an anonymous university archive the better.” *anonymous*
- “It’s a niche interest within a niche interest that will go under the radar of all but those most interested in the area and won’t have the slightest effect on the lives of the vast majority of us. It’s probably less useful in practical terms than building algorithms to direct robot vacuum cleaners or self-driving cars, but why knock it as a field of study? Most career academics that I know are deeply buried in some very esoteric trench in their field.” *Namloc*
- “There are loads of crap tunes written by humans and there will continue to be (as long as there are people like me) in perpetuity. I’d rather play a great tune written by a computer than a crap one I wrote myself.” *Conán M.*

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# Chapter 1

## Introduction

This growing curated collection contains tunes arising from creative partnerships with *music Ai*. Some Ai are trained on over 23,000 music transcriptions contributed by users of [thesession.org](https://thesession.org), which is focused on Irish traditional dance music. These are named *folk-rnn* v1, v2 and v3. The different versions arise from different formats of the training material: v1 models character sequences in a single document, including tune titles; v2 models tokenized transcriptions that have been transposed to have a root of C; v3 uses a slightly different data representation from v2. Another Ai, *folk-rnn* (v. Swedish), was tuned using 4,000 transcriptions of Scandinavian folk music, collected from [folkwiki.se](https://folkwiki.se). Other variants of these systems have also been produced, e.g., using different sampling techniques.

Each transcription herein revealed itself to the world through a computational procedure involving on average one billion operations. They are not purely products of a cold and lifeless statistical algorithm attempting to imitate patterns it has learned from existing data — some human operator is needed to “flip the switch”, and then to curate from the materials generated. Often the Ai generates poor results. Sometimes they are clearly derivative. In a few cases, they can be unusual and wonderful. The challenge is to find these “diamonds” in the raw materials. Then to bring them to life without ever heard them played before by a master musician. Even so, there remains the problem of a tune existing without any trace whatsoever in a collective memory of a community of practitioners. Their context is digital vapor.

Some believe in a purity or divinity of Art, and the superiority of humans in making Art. Involving a machine in Art can be seen as a direct challenge to this purity, not to mention a demotion of the human to machine. This argument elevates the tangible product over the intangible experience, and submits to a rather narrow and mystical notion of creating Art — a human activity, full stop. It is an activity that occurs between our ears in our sensations, thoughts and memories. Art is not contained on the page or in the frame. It does not stop when we leave the concert hall or the museum. Art is entirely steeped in being human. The human decision to involve technology in that activity is only that: the suspension of pigment in egg yolk to make it stick to a surface; the suspension of pigment in slow-drying oil to make it blend and layer in ways superior to egg tempura; the suspension of pigment in plastic medium to make it sculptable and fast drying; the use of a coarse horse hair brush to paint several strands of hair at once; the use of a palette knife to make sharp straight edges; the use of the principles of geometry and perspective to create trompe-l’œil. How is involving Ai in creating music any different? Computers have been able to beat the best human chess players for decades, but for some reason people are still playing and studying chess. Why?

One pitfall important to avoid when it comes to discussing Ai in the Arts is this: thinking that the terms “intelligence” and “learning” mean what they commonly mean when it comes to people. These are “suitcase” words with several meanings that can be confused, and must be unpacked. In the context of Ai, “intelligence” is a quite brittle thing that bears very little resemblance to human intelligence. And “learning” is merely the prosaic computation of numbers in an algorithm that represent probabilistic relationships in data. Falling into this trap can give power to the Ai that it does not actually possess, leading to dystopian fantasies. To claim Ai will destroy music is the same as claiming, e.g., photography will destroy painting, perspective drawing will destroy narrative, and so on. Yes, the future is filled with

composers and painters, photographers and writers ... The only real threats to the Arts are the lack of value for it in a society, and proscriptions of practice due to pressures economic, political, religious, etc.

## 1.1 Inspirations

1. Michael Snow, “The Last LP: Unique Last Recordings Of The Music Of Ancient Cultures”
2. Jennifer Walshe’s [The Avant Garde Archive of Ireland \(aisteach.org\)](#)
3. Jennifer Walshe, “Ghosts of the Hidden Layer” seminar at Darmstädter Ferienkurse, July 25 2018
4. [League of Automatic Music Composers](#)
5. Hobsbawm and Ranger (eds), “The Invention of Tradition”, Cambridge University Press, 2012.

## 1.2 Key References

1. [The Society for the Preservation and Promotion of Machine Folk Music \(v1.1\) facebook group](#)
2. [Tunebook repository](#)
3. [folkrnn.org](#)
4. [themachinefolksession.org](#)
5. [The computer code and data behind folk-rnn](#)
6. [The folk-rnn Session Books \(34 volumes of 100,000 transcriptions\)](#)
7. “Let’s Have Another Gan Ainm”: An experimental album of Irish traditional music and computer-generated tunes (Technical Report)
8. Sturm et al., “Music transcription modelling and composition using deep learning”, in Proc. 1st Conf. Computer Simulation of Musical Creativity, July 2016.
9. Sturm and Ben-Tal, “Taking the Models back to Music Practice: Evaluating Generative Transcription Models built using Deep Learning,” J. Creative Music Systems 2(1) Sep. 2017.
10. Sturm, “What do these 5,599,881 parameters mean? An analysis of a specific LSTM music transcription model, starting with the 70,281 parameters of its softmax layer,” in Proc. Music Metacreation workshop of ICCM, 2018.
11. Sturm et al. “Machine learning research that matters for music creation: A case study,” J. New Music Research 48(1):36-55, 2018.
12. Holzapfel, Sturm, and Coeckelbergh, “Ethical dimensions of music information retrieval technology,” Trans. Int. Soc. Music Information Retrieval 1(1):44-55, 2018.
13. Sturm et al., “Artificial intelligence and music: Open questions of copyright law and engineering praxis,” MDPI Arts 8(3), 2019.
14. Hallström et al., “From Jigs and Reels to Schottisar och Polskor: Generating Scandinavian-like Folk Music with Deep Recurrent Networks,” in Proc. Sound & Music Computing Conf., 2019.
15. Ben-Tal, Harris, and Sturm, “How music AI is useful: Engagements with composers, performers, and audiences,” Leonardo Music Journal (2020).

## 1.3 Appearances of Members of The Society

1. **Feb 26 2020** at the Austrian Research Institute for Artificial Intelligence, Vienna
2. **Mar 12 2020** at “AI for Humanity and Society 2020”, Stockholm (cancelled due to COVID-19, but rescheduled Nov. 18 2020)
3. **Sep 11 2020** at Ars Electronica 2020
4. **Oct 19 2020** at The 2020 Joint Conference on AI Music Creativity
5. **Feb 9 2021** AI for Content Creation, European Broadcasting Union
6. **Apr 23 2021** Umeå Humanities Lab
7. **May 6 2021** 20th International Conference on Autonomous Agents and Multiagent Systems
8. **May 11 2021** KTH AI Society: Knowledge Sharing Session
9. **July 18 2021** 2nd Conference on AI Music Creativity

## 1.4 Frequently Asked Questions

1. “What is *machine folk*?”  
Music that springs from human and machine (Ai) partnership, played on traditional instruments as if such a thing has been done for centuries. Other terms for this kind of music are: *faux folk* and *trAiditional music*.
2. “Why *machine folk*?”  
Why not?
3. “I mean, why not play *real* traditional music?”  
Let’s! But currently only a few people in the entire world are playing folk music generated by machines, which makes it dangerously close to becoming extinct.
4. “Do we really need to involve Ai in music?”  
No, in the same way that we don’t really need to involve pianos.
5. “Why do you have a lower-case ‘i’ when you write ‘Ai’?”  
To highlight the fact that its “intelligence” is questionable.
6. “Isn’t music robotic enough these days?”  
What’s wrong with “robotic”?
7. “I mean, isn’t music supposed to come from the soul? Isn’t it an expression of our humanity? Aren’t the sentiments expressed supposed to touch us and make us empathize with the composer?”  
Who says those things? Also see in the present volume the “[love song](#)” to an algorithm, and the tunes “celebrating” a particular dog.
8. “Have you lost your soul?”  
Not that we are aware of; or, maybe yes? Let’s ask the machine to generate a tune about it.
9. “Can we not technologically tamper with everything that is good and pure in this world?”  
Technological tampering is how musical instruments are created.
10. “Are you working to replace human composers and musicians?”  
No. Humans are an essential part of *machine folk*, from the programming and training of the Ai, to the curation of the generated music and its performance in the real world on real instruments.
11. “Won’t this technology lead to replacing human composers and musicians?”  
If something can be automated, it will be automated. Regardless if an Ai can compose music, humans will continue to compose.

12. “Who owns these tunes?”

The meaningfulness of this question is not clear in a society that has decided it’s acceptable to not pay for music.<sup>1</sup> Regardless, traditional music sits uncomfortably with such notions because it is much more like a public park for all to enjoy than private property for one to rent. The output of folk-rnn might be considered more like the public park – perhaps a little derelict with some broken glass and rusty nails laying around. No place for a picnic really; but still, many of its nooks and crannies are wonderful to visit and explore.

13. “How will this help traditional music?”

Does traditional music need help?

14. “OK. How will this harm traditional music?”

Likely not one bit. These machines are just parlour tricks. But it is important to keep watch for unintended consequences.

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<sup>1</sup>Compliments to [Holly Herndon](#).

## Chapter 2

# Tunes of the Society

This chapter presents the tunes of the Society categorized by rhythm. When a tune involves some modification from the transcription produced by the machine, the original is rendered as small notation.

### 2.1 Jig

Aloe Vera's

*folk-rnn (v2) + Sturm*



When Society Member Näsström shared the photo at left with the Society, Member Sturm decided to ask folk-rnn (v2) to compose a jig about it. The output, seen in small notation, was then modified a bit by Sturm to create the jig. More information about this particular transcription is [here](#). One of Sturm's Irish accordion teachers says this tune sounds like the kind of new jigs created by contemporary Irish composers, e.g., Mícheál Ó Súilleabháin. Daniel Näsström (flute) and Sturm (*Bosca Dubh*): <https://youtu.be/jVJEEc90sxo>

### The Boys Of Ballinaburre

*folk-rnn (v2, with beamsearch n=2)*



This tune was learned from folk-rnn (v2), which generated it under a particular sampling regimen. More information [here](#). The title was generated by folk-rnn (v1) for a different tune, but applied to this tune because Society Member Sturm thinks it fits. There's a claim that the turn (B-part) resembles that of a traditional Irish tune named, "The Thatched Cabin". That particular tune does not appear in the training data of this folk-rnn model. One of Sturm's Irish accordion teachers says this tune sounds like an old jig, and is ready to be learned as is. Sturm (*Bosca Dubh*): [https://youtu.be/qc0ZZpfSM\\_E](https://youtu.be/qc0ZZpfSM_E)

### Gallagher's Favourite

*folk-rnn (v3) + Sturm*



This tune appears in the [folk-rnn \(v3\) Session Book, Vol. 3 of 4](#) (#5712). The title was generated by folk-rnn (v1) for a different tune, but applied to this tune because Society Member Sturm thinks it fits. Only one slight change is made to the last measure. One of Sturm's Irish accordion teachers says this sounds like a classic jig. Sturm (*Bosca Dubh*): <https://youtu.be/y6-7bLIJS9g>

## Cleaper's Wheel

*folk-rnn (v2) + Sturm*

The Society members Larsson, Kmoch and Sturm found this tune together while browsing the [Endless MF Session website](#) ([synthesized recording](#)). The title was generated by folk-rnn (v1) for a different tune, but applied to this tune because Society Member Sturm thinks it fits. It appears in the [folk-rnn \(v2\) Session Book, Vol. 2 of 10](#). One of Sturm's Irish accordion teachers pointed out that the first part of the tune closely resembles the jig "Old Man Dillon", but the second part is completely unique and wonderful. Society Member Sturm thus modified the first part.

## The A.i. Man

*folk-rnn (v2, w/ beamsearch n=2)*

This jig won the first place prize at the [Ai Music Generation Challenge 2020](#). The title was given to it by judge Paudie O'Connor. The jig was generated by folk-rnn (v2), sampled with beamsearch (n=2), and selected by an artificial critic comparing the outputs with O'Neill's 365 double jigs in the "1001" collection. In the 10001 jigs generated by the system and selected by the critic, it appears as #8091. Sturm (*Bosca Dubh*): <https://youtu.be/yhPuYbhr7Y4>

## Wolden Sailor



This tune appears in the [folk-rnn \(v2\) Session Book, Vol. 7 of 10](#) (#18727). The title was generated by folk-rnn (v1) for a different tune, but applied to this tune because Society Member Sturm thinks it fits. Sturm (*Bosca Dubh*): <https://youtu.be/t7yMv2B6MNQ>

## The Rellus On The Turnpipe



This delicate jig was generated by folk-rnn (v1), which also titled it. It appears in the [folk-rnn \(v1\) Session Book, Vol. 8 of 20](#). It was actually entered into a [competition of new folk music](#). Sturm (*Bosca Dubh*): <https://youtu.be/JrUa-RSpN78>

## The Lonesome Fairy



This jig won the second place prize at the [AI Music Generation Challenge 2020](#). The title was given to it by judge Jennikel Andersson. The jig was generated by folk-rnn (v2). In the 10001 jigs generated by the system, it appears as #7983. Sturm (*Bosca Dubh*): <https://youtu.be/FVlaI7VbV1A>



## The Waters Of Heanny

*folk-rnn (v1) + Sturm*

This tune and its title appears in the [folk-rnn \(v1\) Session Book, Vol. 3 of 20](#). Society Member Sturm changed a few parts to make it more “watery.” The original output of the algorithm is shown in smaller notation. Sturm (*Bosca Dubh*): [https://youtu.be/QehkSmr0J\\_4](https://youtu.be/QehkSmr0J_4)

## My Ove Wore A Da’

*folk-rnn (v2, w/ beamsearch n=2) + Sturm*

This tune was learned from folk-rnn (v2) with beamsearch (n=2). In the 10001 jigs generated by the system and selected by the critic, it appears as #18. The title was applied to this tune by a system taught to title tunes. Sturm’s accordion teacher agrees that it’s a nice melody, and plays well as a single jig. Sturm (*Bosca Dubh*): <https://youtu.be/SU2jPwHiDfk>

## The Teelin Brood

*folk-rnn (v2) + Sturm*

This jig generated by folk-rnn (v2) was selected by an artificial critic tuned to the likes of Society Member Sturm — the same critic that suggested the hornpipe “Fredrik’s Christmas Critic” on page 26. The title was generated by folk-rnn (v1) for a different tune but Society Member Sturm believes it fits this one too. Sturm (*Bosca Dubh*): <https://youtu.be/q6g9mX0IU2I>

## Happy to Jeer

*folk-rnn (v2) + Sturm*

This jig, generated by folk-rnn (v2), was highly rated at the [AI Music Generation Challenge 2020](#), but did not win a prize. The title was applied to this tune by another system taught to title tunes. In the 10001 jigs generated by the system and selected by the critic, it appears as #6021. Sturm’s Irish accordion teacher says it sounds like a classic jig used for teaching dancing. Sturm (*Bosca Dubh*), Carla Sturm & Shoogee: <https://youtu.be/FVacJEMReRA>

## Garrett Farmor's



This tune was learned from folk-rnn (v2), and appears as #2857 in the [folk-rnn \(v2\) Session Book, Vol. 1 of 10](#). More information on this tune can be found [here](#). The title was generated by folk-rnn (v1) for a different tune, but applied to this tune because Society Member Sturm thinks it fits. One of Sturm's Irish accordion teachers says this tune is *not* good – actually, “it's not even music” – which motivates Sturm to play it often because he strongly believes otherwise. Sturm (*Bosca Dubh*): <https://youtu.be/4ldA8ub35-g>

## Shoogee's Shenanigans

*folk-rnn (v2) w/ beam search (n=2) + Sturm*

folk-rnn (v2) w/ BS #1019

folk-rnn (v2) w/ BS #6665

This tune was assembled from two similar outputs generated by the folk-rnn (v2) system using beam search sampling. The title refers to Society member Sturm's dog Shoogee, who demonstrates said shenanigans. Sturm (*Bosca Dubh*): <https://youtu.be/1lUEXMB6qAg>

## The Crisis of Proliferation

*folk-rnn (v2) + Sturm*

This jig was learned from folk-rnn (v2). The title references the phrase coined by Jacques Attali in his book, “Noise: The Political Economy of Music”, which Society member Sturm is trying to understand. Sturm (*Bosca Dubh*): <https://youtu.be/ii68getuylg>

## The Humours Of Bringa

*folk-rnn (v2) + Sturm*

This jig was learned from folk-rnn (v2), and appears as #20 in the [10,001 submitted to the Ai Music Generation Challenge 2020](#). The title comes from another system, which learned to title tunes. Sturm (*The Black Box*): <https://youtu.be/y11PpIELwYc>

## Pfister Dose of Pfizer

*folk-rnn (v2, w/ beam search n=2) + Sturm*

This jig comes from folk-rnn (v2, w/ beam search n=2). Society member Sturm named the tune after he received his first vaccination against COVID-19 – the brand Pfizer. Sturm (*Bosca Dubh*): <https://youtu.be/KojB0wKqEHg>

## The Sobieski Stuarts

*folk-rnn (v2) + Sturm*

This jig comes from folk-rnn (v2, w/ beam search n=2). Society member Sturm named the tune after a pair of brothers discussed in Hobsbawm and Ranger (eds), “The Invention of Tradition”, Cambridge University Press, 2012. The Sobieski Stuarts invented stories about their “royal lineage”, including their possession of an historical record of tartan tradition in Scotland. This tradition lives on today as if it has been around forever. Sturm (*The Black Box*): <https://youtu.be/yIBjebvwMZM>

## 58,104 to go

*folk-rnn (v2, w/ beam search n=2) + Sturm*

This jig comes from folk-rnn (v2, w/ beam search n=2), and appears as no. 33135 on pg. 4,914 in the collection “58,105 Irish Style Double Jigs”. This is the first one to be performed from this collection, which leaves 58,104 left. The collection was generated as part of Society member Sturm’s paper, “An Artificial Critic of Irish Double Jigs”, in *Proc. AI Music Creativity Conference, Graz, 2021*. Sturm (*The Black Box*): <https://youtu.be/Sipj4fCtImE>

## There was a time you could get a monkey in the mail

*folk-rnn (v2 w/ beam search) + Sturm*

This jig comes from folk-rnn (v2, w/ beam search n=2), and appears as no. 25983 on pg. 3,863 in the collection “58,105 Irish Style Double Jigs”. Society member Sturm remembers seeing advertisements in old comic books where one could purchase a monkey by sending a few dollars to an address, and the monkey would arrive in the mail. The collection was generated as part of Society member Sturm’s paper, “An Artificial Critic of Irish Double Jigs”, in *Proc. AI Music Creativity Conference, Graz, 2021*. Sturm (*The Black Box*): [https://youtu.be/\\_fn0MW7cdnE](https://youtu.be/_fn0MW7cdnE)

## Shoogee and the Cows

*folk-rnn (v2 w/ beam search) + Sturm*

This jig comes from folk-rnn (v2 w/ beam search,  $n=2$ ). Society member Sturm learned this tune while on holiday in Djursvik, Sweden (which is between Kalmar and Karlskrona). He felt that it nicely describes the tension and amusement his dog Shoogee showed upon meeting her first herd of cows (pictured). Sturm (*The Black Box*): <https://youtu.be/jbmRw6N0SCk>

## Djursvik Semester



This jig comes from folk-rnn (v2), and was selected by an artificial critic tuned to the likes of Society Member Sturm. Society member Sturm learned this tune while on holiday in Djursvik, Sweden (which is between Kalmar and Karlskrona). It is pure dance music. Sturm (*The Black Box*): <https://youtu.be/0-u5BULdP3s>

## The Irish Show

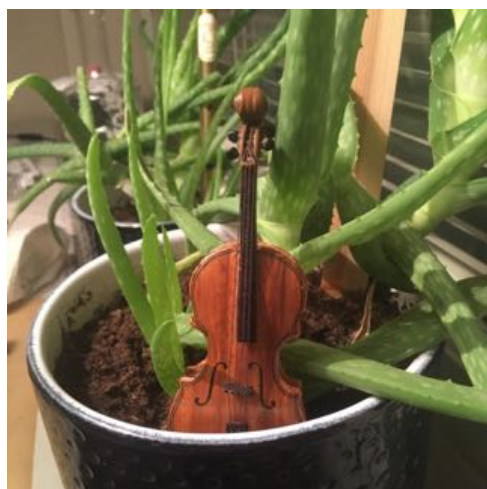
*folk-rnn (v1) + Sturm*

This jig comes from folk-rnn (v1), and appears in [The folk-rnn \(v1\) Session Book Vol. 13 of 20](#). The system created the title. Society member Sturm has made a few changes to the output. Sturm (*The Black Box*): [https://youtu.be/81iBM2i\\_b6Y](https://youtu.be/81iBM2i_b6Y)



## 2.2 Reel

## Aloe Vera's

*folk-rnn (v2) + Sturm*

The basic idea of this reel were generated by folk-rnn (v2) seeded with dcAB GABG (but transposed to C major), which are the first eight pitches of [Aloe Vera's](#) (jig). The impetus of the tune came when Society Member Näsström shared the photo at left with the Society, saying, “Mother Aloe Vera just told me she want a reel.” Sturm (*Bosca Dubh*): <https://youtu.be/Xb8RC6GgpLM>

## Swing Swang Swung

*folk-rnn (v2)*

This tune was learned from folk-rnn (v2). The opening bears some similarity to “Swing Swang” played by Na Draíodóirí (a tune that is in the training data of this model) — thus inspiring the title. More information about this particular transcription is [here](#). One of Sturm’s Irish accordion teachers says this is a good tune, and sounds like the kind of tunes he likes. Sturm (*Bosca Dubh*): [https://youtu.be/1Y0deGgB\\_WY](https://youtu.be/1Y0deGgB_WY)

## Roaring Sillow

*folk-rnn (v2, with beamsearch n=4) + Sturm*

This tune was created using folk-rnn v2 with beamsearch (n=4). It appears in the book chapter, Sturm and Ben-Tal (2021). Handbook of Artificial Intelligence for Music, chapter Folk the Algorithms: (Mis)Applying Artificial Intelligence to Folk Music. Springer. The title was generated by folk-rnn (v1) for a different tune, but applied to this tune because Society Member Sturm thinks it fits. Sturm (*Bosca Dubh*): <https://youtu.be/dNIIRhs-rhA>

## Mickey Fitternaly's

*folk-rnn (v2, with beamsearch n=2)*

This reel was learned from folk-rnn (v2), which generated it under a particular sampling regimen. The title was generated by folk-rnn (v1) for a different tune, but applied to this tune because Society Member Sturm thinks it fits. More information [here](#). Society Member Sturm has slightly modified the last half of the sixth bar of the turn such that it repeats the 2nd bar of the turn. One of Sturm's Irish accordion teachers says this sounds like the kind of tunes he likes. Sturm (*Bosca Dubh*): <https://youtu.be/Ewsvk6fy9Yg>

## Close Encounters of the Reel Kind

*folk-rnn (v2) + Sturm*

This tune was co-created with folk-rnn (v2). The system was primed with M:4/4 K:Cmaj d e c C G 2, which is the famous musical message to the extraterrestrials in the movie "Close Encounters of the Third Kind." Proper performance of this tune dictates that the musicians look skyward for any "signs". Sturm (*Bosca Dubh*): [https://youtu.be/ZNOFi\\_oyu44](https://youtu.be/ZNOFi_oyu44)

## The dog ate a raisin so call the vet

*folk-rnn (v2) + Sturm*

This reel generated by folk-rnn (v2) was selected by an artificial critic tuned to the likes of Society Member Sturm. The title refers to Sturm's dog Shoogee, who one morning ate a raisin, precipitating a quick visit to the vet whereupon said raisin was "extracted" (inset of pictured). Sturm (*Bosca Dubh*): <https://youtu.be/1PbTqFVAY64>

## Shoogee Take Another Shoe

*folk-rnn (v2) + Sturm*

The musical score is written in 4/4 time and the key of D major (indicated by two sharps). It consists of eight staves. The first staff begins with a repeat sign and contains two endings, labeled '1' and '2'. The second and third staves continue the melody. The fourth staff also features a repeat sign and two endings, labeled '1' and '2'. The fifth and sixth staves continue the melody. The seventh and eighth staves complete the piece. The notation includes various rhythmic values such as eighth notes, quarter notes, and rests, with some notes marked with a tilde (~) indicating a grace note or a specific articulation.

This reel generated by folk-rnn (v2) was selected by “Fredrik’s critic” tuned to the likes of Society Member Sturm. The title refers to Sturm’s dog Shoogee, who likes to run off with shoes. Sturm (*Bosca Dubh*): <https://youtu.be/ICN17681QwM>

## Dress the Egg with a Hat

*folk-rnn (v2) + Sturm*

Society Member Sturm created this reel from two tunes generated by folk-rnn (v2), in response to the photo Society Member Näsström sent of his breakfast (left). Sturm (*The Black Box*) and Näsström (flute): [https://youtu.be/W8q9eq\\_wNNM](https://youtu.be/W8q9eq_wNNM)

## Namloc's

*folk-rnn (v2) + Sturm*

This tune was discovered in [the folk-rnn \(v2\) Session Books, Vol. 1 of 10](#) by a fellow whose screen name is “Namloc”. It appears in that volume as #39. He [says](#), “Tune 39 was actually sounding like quite a plausible traditional tune up until it ended on a low E when it clearly should have ended on a G instead”. Society member Sturm has named the tune after the helpful fellow, but has kept the E for drama and contrast. Sturm (*The Black Box*): <https://youtu.be/H-5LJDzKrCc>

## The Fonserannes Staircase

*folk-rnn (v2) + Sturm*

This reel was selected by an artificial critic choosing from tunes generated by folk-rnn (v2) according to the tastes of Society member Sturm. The artificial critic is the same that has selected a number of other tunes in this volume, e.g., the hornpipe “Fredrik’s Christmas Critic” on page 26. Sturm named this tune after traveling up the impressive [Fonserannes Staircase](#) during a cruise on the Canal du Midi on August 17, 2021. Sturm (*The Black Box*): <https://youtu.be/osR8e8-EKoE>



## 2.3 Hornpipe

### Ms. Riddles' Hornpipe

*folk-rnn (v2) + Sturm*



Society member Sturm got this hornpipe from folk-rnn (v2) when he asked it for a tune about the spider living in his bathroom – whom he named “Ms. Riddles”. For one wonderful week, the silverfish in his bathroom disappeared thanks to Ms. Riddles. To show his gratitude, he caught and froze a fly, and gave it to Ms. Riddles. She seemed to enjoy eating it, and used it to decorate her porch, along with what appears to be the King of the Silverfish. Ms. Riddles is long gone now, but her mem-

ory lives on in this wonderful hornpipe. Sturm (*Bosca Dubh*): <https://youtu.be/V2EiFb89koE>

## The Liddle Shepe

*folk-rnn (v2, with beamsearch n=2)*

This lovely hornpipe was learned from folk-rnn (v2), which generated it under a particular sampling regimen. The title was generated by folk-rnn (v1) for a different tune, but applied to this tune because Society Member Sturm thinks it fits. Society member Näsström says this tune makes him happy. More information [here](#). One of Sturm’s Irish accordion teachers says this tune is more like a strathspey or highland than a hornpipe — the melody has phrases that sound too short for a hornpipe. Sturm (*The Black Box*): [https://youtu.be/dvri\\_8zTXiI](https://youtu.be/dvri_8zTXiI)

## Fredrik’s Christmas Critic

*folk-rnn (v2) + Sturm*

This hornpipe was selected by an artificial critic choosing from tunes generated by folk-rnn (v2). The artificial critic was built by a student supervised by Society Member Sturm in the Fall 2020, named Fredrik. He sent this tune as an example of a “high scoring tune”, according to said critic. Sturm fell in love with it pretty quickly. More like this please, dear artificial critic! Sturm (*Bosca Dubh*): <https://youtu.be/Igwv5sgG1wU>

## Sorpiké's Cat

*folk-rnn (v1) + Sturm*

This hornpipe was generated by folk-rnn (v1), and appears in the [folk-rnn \(v1\) Session Book, Vol. 8 of 20](#). Sturm (*Bosca Dubh*): <https://youtu.be/uSPDnew-7sY>

## Socks and Sandals

*folk-rnn (v2) + Sturm*

This hornpipe was generated by folk-rnn (v2), and discovered by a fellow named Milton at [thesession.org](https://thesession.org). It appears as number 6 in the [folk-rnn \(v2\) Session Book, Vol. 1 of 10](#). Society member Sturm titled the tune since he believes it fits nice and slow summer days in Scandinavia. Sturm (*The Black Box*): <https://youtu.be/sDqKJLdIIz4>

## 2.4 Polka

Göran's sick at home and Pelle's just cut his finger

*Sturm, Näsström + folk-rnn (v2)*

This tune was co-created with folk-rnn (v2), seeding it with two ideas: one for the first part provided by Society member Sturm, and one for the second part provided by Society member Näsström. They wanted to write a polka for their two friends Göran and Pelle, with whom they play and enjoy Irish music. Göran couldn't make a session because he was sick, and Pelle had to cancel because he had cut his finger. The system was seeded with |:c/2d/2e dc | BG B2 to create first part, and then |:c/2d/2edc |BGB2 |c/2d/2e/2d/2cd |ed/2c/2BG | cd/2e/2dc |BGBB |c2B/2c/2d |c2c2 :| |:c'b gc' | bg to create second part. Sturm (*Bosca Dubh*): <https://youtu.be/plZMHUdsmr0>

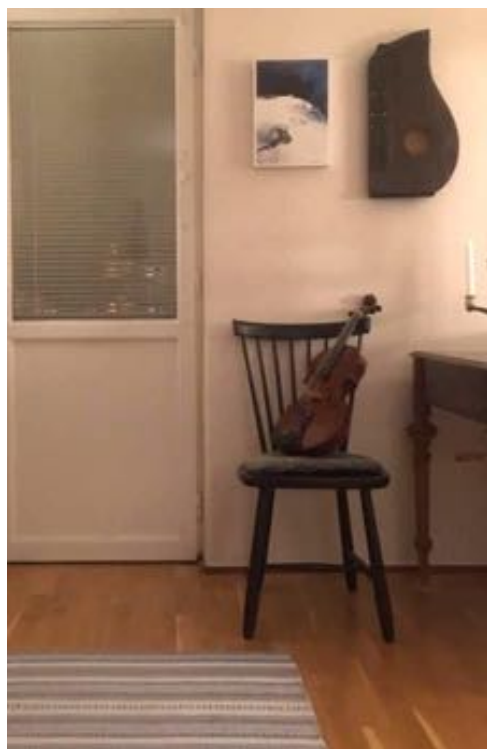
## William Murphy's

*folk-rnn (v1) + Sturm*

This fantastic polka was learned from folk-rnn (v1), which also titled it. It appears in the [folk-rnn \(v1\) Session Book, Vol. 3 of 20](#). The changes made come from suggestions by Sturm's Irish accordion teacher. Sturm (*Bosca Dubh*): <https://youtu.be/CEuCwmYz00s>

### Biggish Fiddle on a Smallish Chair

*folk-rnn (v2) + Sturm*



This polka was generated by folk-rnn (v2), but recommended by a critic tuned to the likes of Society member Sturm. The title comes from a photo Society member Näsström sent to Sturm (left). Sturm responded with a tune called, “Fiddle on a chair.” Näsström replied, “Since Aloe Vera was lazy and didn’t come up with a polka, the viola saw the opportunity!” Sturm replied, “Oh, then we will call it ‘Viola on a chair.’” Näsström replied, “I think a viola is a fiddle too, just a bigger one.” Sturm finally named the tune, “Biggish Fiddle on a Smallish Chair.” Since folk-rnn puts too many ideas into its polkas, Sturm adapted the B-part. Sturm (*Bosca Dubh*): <https://youtu.be/T1Dfsyn58mM>

## 2.5 Slide

The dog got a haircut and now looks like a sheep

*folk-rnn (v2 w/ beamsearch n=2, beta=30) + Sturm*



This slide comes from folk-rnn (v2, w/ beam search n=2, beta=30). It perfectly accompanies the odd haircut Society Member Shoogee received (pictured). The normal gal wasn't in, and her replacement did as best as she could, trimming everything but the body. With Shoogee's little short legs, she looks like a sheep. Sturm (*Bosca Dubh*): [https://youtu.be/qu0TM\\_bDLLI](https://youtu.be/qu0TM_bDLLI)

## 2.6 Polska

### Måndag på KTH

*folk-rnn (v/ Swedish)*



This polska was learned from folk-rnn (v/ Swedish), and titled by Society Member Sturm to fit the feels of being on campus on Monday mornings (pre-pandemic). More information [here](https://youtu.be/LDPT7RIBwV8). Sturm (*Bosca Dubh*): <https://youtu.be/LDPT7RIBwV8>



## 2.7 Piece

Why are you and your 5,599,881 parameters so hard to understand?

*folk-rnn (v2)*



This tune was learned from folk-rnn (v2). It is best played slowly, like any love song written for an algorithm. The title refers to difficulties in the investigation of how the Ai model is working. This tune made its first appearance in Society Member Sturm’s paper, “[What do these 5,599,881 parameters mean? An analysis of a specific LSTM music transcription model, starting with the 70,281 parameters of its softmax layer,](#)” in *Proc. Music Metacreation workshop of the Int. Conf. Computational Creativity, 2018*. One of Sturm’s Irish accordion teachers says this tune sounds like a dramatic air that would be played by Tony MacMahon. Sturm (*The Black Box*): <https://youtu.be/tXmEvGwseuU>

## De Sjäällösas Schottis

*folk-rnn (v/ Swedish) + Sturm*



This tune comes from material generated by the [Swedish version of folk-rnn](#). The title means “The Schottis of the Soulless”. With the playing style of Society member Sturm, it is less than a waltz and more of a schottis. It was actually entered into a [competition of new folk music](#). Sturm (*Bosca Dubh*): <https://youtu.be/WBfF6zFRdCo>

## The Cuckoo's Wedding

*folk-rnn (v1) + Sturm*

Society members Mauritz, Kmoch and Sturm found this tune together while browsing the now deleted Endless folk-rnn Session website. It appears in the [folk-rnn \(v1\) Session Book, Vol. 1 of 20](#). Society member Sturm modified part to make it more celebratory. Sturm (*Bosca Dubh*) and Näsström (recorder): <https://youtu.be/Kmu6q3xMhK8>

## Evigt Förlorad

C(AABBC)2CA

*folk-rnn (v2) + Sturm*

A



B



C







Society member Sturm found this piece while looking through the “rejections” of an artificial critic he built for the Ai Music Generation Challenge 2020. The title means “forever lost”. He dedicates the piece to his deceased dog *Smootzieg*, who died tragically on her six-month birthday after getting from her harness and running into a busy road. Sturm (*Bosca Dubh*): <https://youtu.be/rRu8LAhEp-w>

## Heading back home to finally bury mom

*folk-rnn (v2 w/ beam search n=2) + Sturm*

Society member Sturm found this piece while looking through “58,105 Irish Style Double Jigs” — a collection generated by folk-rnn (v2, w/ beam search n=2) as part of Society member Sturm’s paper, “An Artificial Critic of Irish Double Jigs”, in *Proc. AI Music Creativity Conference, Graz, 2021*. It appears as no. 28984 on pg. 4293. The title comes from Society member Sturm’s travel back home after the pandemic to finally see his mother into the ground. Sturm (*The Black Box*): [https://youtu.be/x1eH\\_07e0Eo](https://youtu.be/x1eH_07e0Eo)

# Chapter 3

## Sets

The following sets are recommended, but by no means required.

### 3.1 Jig sets

1. [Aloe Vera's](#), [The Boys of Ballinaburre](#), [Gallagher's Favourite](#)

### 3.2 Reel sets

1. [Mickey Fitternaly's](#), [Swing Swang Swung](#), [Aloe Vera's](#)

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