Comparing Deep Composers for Eurovision AI Song Contest

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Eurovision AI Song Contest

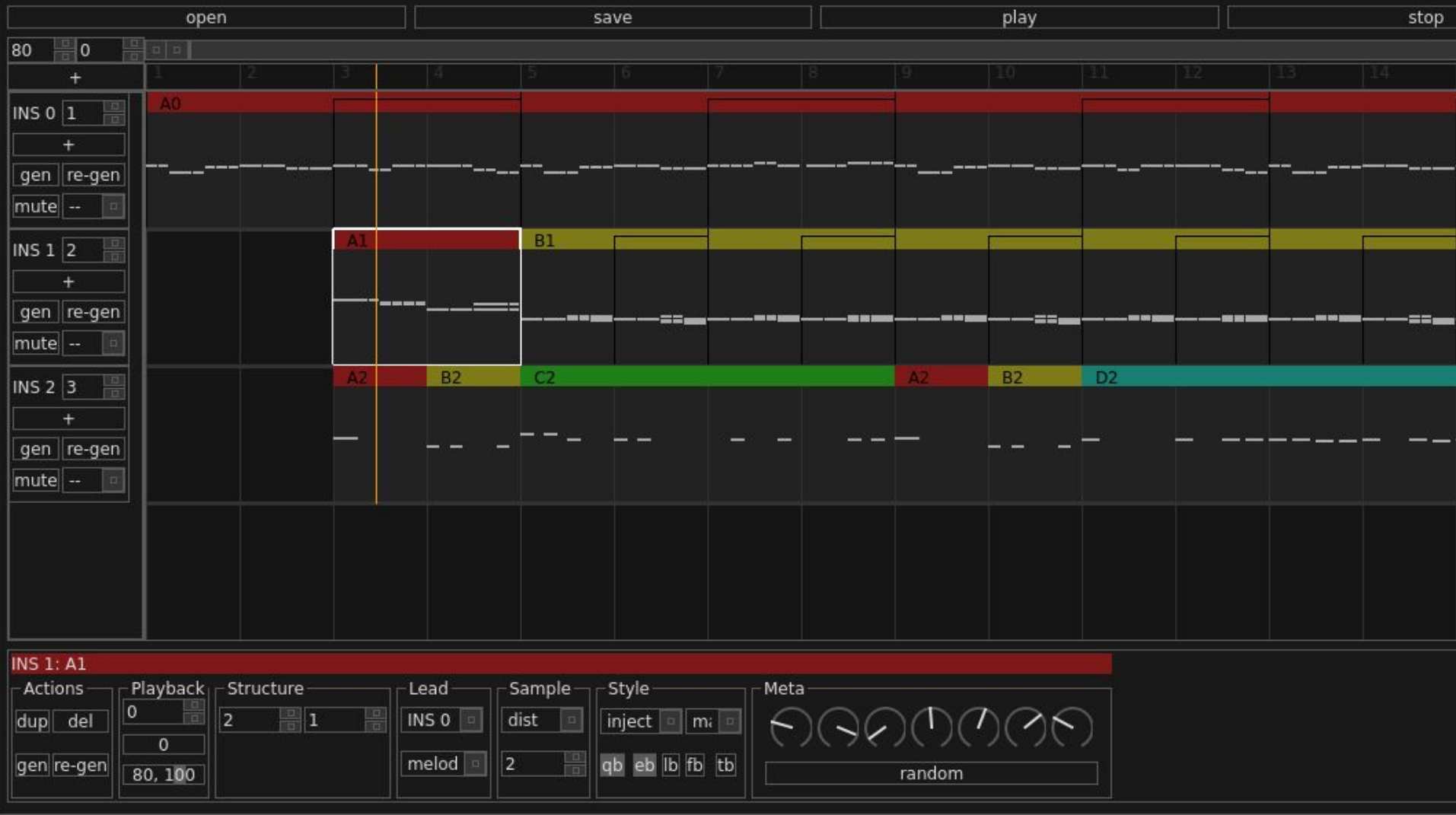
- VPRO
- What makes a song fit for Eurovision?
- Dataset of ~200 MIDI files
- Sharing is caring

Research goals

- How do musAIc, commercial composers and Folk-RNN compare?
- What parameters produce the “best” result?

musAIc

- Created by member of AI Contest team
- Geared towards production of music
- Advanced tools and parameter tweaking
- Still in development
- Dependant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Sample
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2
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fb
tb
Meta
random

Commercial products

- AWS DeepComposer
- AWS Sagemaker
- Google Magenta
- Musenet
- Azure

Folk RNN

- Introduced during prior lectures
- Meant as composing tool, not producer
- Originally for folk songs
  - Test of adaptability

Results - Iteration 1

- Same parameters used by the authors in their paper
- Samples generated had a huge amount of overfitting
  - Scaling of training parameters to our dataset size

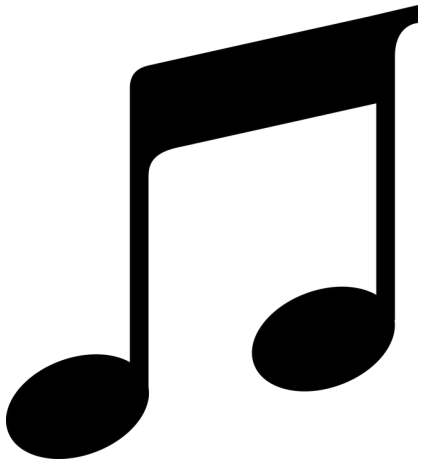
Results - Iteration 2

- Scaled to our dataset size
  - Neurons per layer
  - Batch size
  - Validation rate
- Same learning rate
- Worse than expected

Results - Iteration 3

- Learning longer and more consistent
  - Epochs up
  - Decay start and rate up
  - Learning rate up
- Batch size up
- Better

Generated samples



Discussion

- Very small dataset
- musAIc development
- Consumer market is wide but not perfect
- Folk RNN can be used for composing inspiration for the VPRO team