





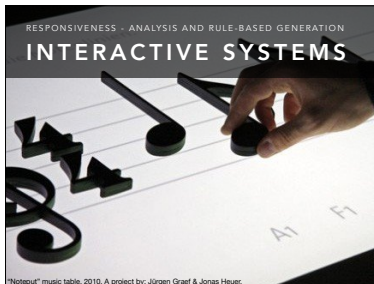
<p><b>ALGORITHMIC GUIDANCE</b></p> <ul style="list-style-type: none"> <li>• Random theme generation</li> <li>• Repetition and variation</li> <li>• Hindemith harmonic tension theory</li> <li>• Phrase resolution at cue points</li> <li>• Parametric constraints</li> </ul>	<p><b>PARAMETERS</b></p> <ul style="list-style-type: none"> <li>• Number of voices</li> <li>• Volume</li> <li>• Upper and lower range</li> <li>• Harmonic tension</li> <li>• Rhythmic tension</li> <li>• Number of instruments</li> <li>• Harmonic rhythm</li> <li>• Section tempo</li> </ul>
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<p><b>DAVID COPE</b> - EMI (EMMY)</p> <ul style="list-style-type: none"> <li>• Experiments in Musical Intelligence</li> <li>• 1980s - 2000s</li> <li>• Style Imitation</li> <li>• Analysis and recombination</li> </ul> <p>Mozart style Sonata (1997)</p>	
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<http://artsites.ucsc.edu/faculty/cope/experiments.htm>

RESPONSIVENESS - ANALYSIS AND RULE-BASED GENERATION

**INTERACTIVE SYSTEMS**



"Noteput" music table, 2010. A project by Jürgen Graef & Jonas Heuer.

“Noteput” music table, 2010. A project by: Jürgen Graef & Jonas Heuer.

<https://vimeo.com/8308494>

<http://jonasheuer.de/index.php/noteput/>

<p><b>GENERATIVE</b></p> <ul style="list-style-type: none"> <li>• Arpeggiations by LFO</li> <li>• Harmonic following</li> <li>• Simple beat subdivisions as rhythmic cells</li> <li>• Three generated voices</li> </ul>	<p><b>RESPONSIVE</b></p> <ul style="list-style-type: none"> <li>• Phrases generated in response to musician</li> <li>• Dynamic level imitation</li> <li>• Dynamic level influxes rhythmic complexity</li> <li>• Moving window pitch class</li> <li>• Range avoidance between parts</li> </ul>
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<https://www.youtube.com/watch?v=9AxsIQWZ4-U>



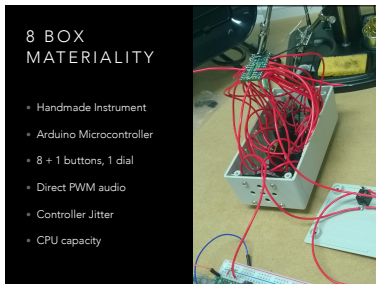
<https://www.youtube.com/watch?v=ynPWOMzossI>

REFLEXIVITY	DUET INTERACTION
<ul style="list-style-type: none"><li>• Store and replay segments</li><li>• Variation and distortion</li><li>• Duet density target</li><li>• Random walk through data</li><li>• Performance as interface</li></ul>	<ul style="list-style-type: none"><li>• <b>Initiate</b> (introduce new material)</li><li>• <b>Imitate</b> (reuse material from the other part within a short time frame)</li><li>• <b>Repeat</b> (reuse material in the same part)</li><li>• <b>Restate</b> (reuse earlier material from either part)</li><li>• <b>Shadow</b> (play in unison or close parallel with other part)</li><li>• <b>Silence</b> (don't play)</li></ul>





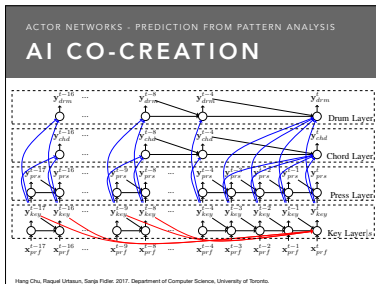
[https://www.youtube.com/watch?v=FqrB741z\\_GE](https://www.youtube.com/watch?v=FqrB741z_GE)



<https://www.youtube.com/watch?v=bBMQxHIndQ8>

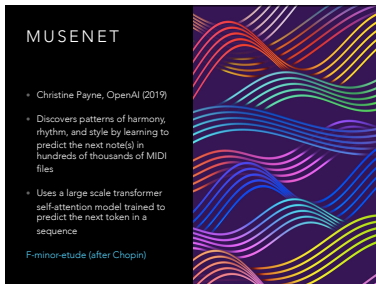


<https://www.youtube.com/watch?v=VkUq4sO4LQM>



[chrome-extension://oemmndcbldboiebfnladdacbfmadadm/https://chuhang.github.io/files/publications/ICLRW\\_17.pdf](chrome-extension://oemmndcbldboiebfnladdacbfmadadm/https://chuhang.github.io/files/publications/ICLRW_17.pdf)

Hang Chu, Raquel Urtasun, Sanja Fidler. 2017. Department of Computer Science, University of Toronto.



<https://openai.com/blog/musenet/>

Uses a reformulation of the Transformer self-attention mechanism, along with several other improvements, to apply it directly to these rich data types. Previously, models used on these data were specifically crafted for one domain or difficult to scale to sequences more than a few thousand elements long. In contrast, our model can model sequences with tens of



Workshop on Machine Learning for Creativity and Design (NeurIPS 2018), Montréal, Canada

<https://www.youtube.com/watch?v=SB8aW0wqZG8>

A VERY AI XMAS (2018)  
- WITH UNCANNY VALLEY & UNSW

A VERY  
AI  
CHRISTMAS  
SOUND ON!

<https://www.youtube.com/watch?v=XruXCyrzI7Y>

Uncanny Valley collaborated with academic partners from UNSW and Griffith University

#### SUMMARY

- Approaches to bespoke generative music
  - Live Coding
  - Generative Composition
  - Interactive Music Systems
  - Reflexivity
  - Post-digital Materiality
  - AI Co-creation

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