

Pyramid Tala for Live Code and Drumkit

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Additional Key Words and Phrases: carnatic rhythms, live coding, augmented drumkit, pyramid tala

1 Program Notes

A collaboration between drummer Matt Davies and live coder Alex McLean, focussed on exploring the "pyramid tala" introduced by celebrated mridangam player B C Manjunath. This rhythmic cycle consists of inter-onset intervals (IOIs) of 1, 2, 3, 4, 5, adding up to a total of fifteen beats. This exploration will be explicitly algorithmic, in the sense of taking a systematic approach to improvisation, combining and transforming elements to create complex wholes from simple parts. This algorithmic theme will be developed not only through code, but through direct manipulation of physical playing via instrumental and vocal 'konnakol' patterns.

2 Project Description

On the live coding side, we will employ the free/open source live coding environment 'Strudel' [2] co-developed by McLean, with focus on its 'stepwise' pattern transformations, including the 'shrink', 'grow', 'expand', 'extend' and 'pace' methods and the underlying stepwise monadic 'join'. These transformations have been added to Strudel (and its older sibling TidalCycles) by McLean in order to better represent Carnatic rhythms, in response to the author's experience learning the vocal practice of konnakol [3], where 'solkattu' syllable groups are recited in patterns such as shrinking/growing 'yati' structures. The performance will act as a showcase of those features, while also acting as a meeting point between geometric rhythms of Konnakol dating back thousands of years, and live coding practices developed over the past two decades. Both heritage and contemporary aspects are understood and presented through the lens of algorithmic music.

This will build on an earlier performance, where we explored different expansions of the tala. Each player began with IOIs of 1, 2, 3, 4, 5, then independently moved to repeating each IOI twice (giving 1, 1, 2, 2, 3, 3, 4, 4, 5, 5), and then three times, before returning back to twice then once, and then in quick succession increasing up to five times. This will remain the structure of the piece, but with additional exploration of polyrhythm through overlaying of repeated 5s and 3s, play with reversal of the tala (a nod to the 'jux rev' operation in the live coding community where one channel is reversed), and vocal exploration in refrain.

For detailed reflections on the pyramid tala, please see the alt.nime paper also published via this edition of NIME [1].

3 Technical Notes

Performer Matt Davies and Alex McLean to face each other on stage

Matt Davies - drummer:

- Can use provided drum kit (will bring breakables) or potentially bring their own.
- Venue provides drum mics
- Performer will place contact mics on drum kit. These will feed into resonator, providing stereo audio output

Alex McLean- live coder:

- Will perform on stage with their own laptop and small MIDI controller
- Will provide own radial USB DI with stereo pair of balanced XLR outputs
- Laptop HDMI output to projection or screen, preferably to rear of stage, to show code and visualisation for audience

4 Media Links

See attached supplementary material:

- pyramid.mp4 - An earlier performance based on expansions of the pyramid tala, with performers Matt Davies and Alex McLean together with mridangam player B C Manjunath.

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- pyramid-practice.mp3 - A short example of Alex McLean (live coder) practicing without computer or other notation, clapping the pyramid tala while vocalising solkattu syllables over it, with expansions towards the end.

5 Ethical Standards

This work is inspired by Carnatic rhythms, including through collaboration with a South Indian percussionist. This is done in the spirit of cross-cultural exchange, with issues around cultural appropriation explored in-depth through connected research. All software is free/open source.

All performers not funded directly from the project have been paid fair union rates.

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References

- [1] Alex McLean and Dan Stowell. 2026. Learning and Embodying Algorithmic Music via the Pyramid Tala. In *Proceedings of the International Conference on New Interfaces for Musical Expression (NIME 2026)*. London, UK.
- [2] Felix Roos and Alex McLean. 2023. Strudel: Live Coding Patterns on the Web. In *Proceedings of the 7th International Conference on Live Coding*. Zenodo, Utrecht, Netherlands. <https://doi.org/10.5281/zenodo.7842142>
- [3] Trichy Sankaran. 2010. *The art of Konnakkol (Solkattu): spoken rhythms of south indian music*. Lalith Publishers, Toronto.