

**Then Try This • Algorithmic Pattern Salon**

# **RagaLab: an experimental prototype for mathematical exploration and musical modelling of structures based on Indian classical music theory**

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**Published on:** Nov 11, 2023

**URL:** <https://alpaca.pubpub.org/pub/6hd57q7r>

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## ABSTRACT

RagaLab is an educational resource project whose main objective is to contribute to the educational system by diversifying the ways of teaching mathematics, while establishing interdisciplinary connections with musical composition. Inspired by the stochastic composition proposal presented by Iannis Xenakis in his work "Achorripsis" (Xenakis, 1963/1992), RagaLab seeks to enrich the learning experience through music and mathematics. The current phase of development and implementation of RagaLab corresponds to an experimental prototype developed in Pure Data (Puckette, 1996). A distinctive aspect of RagaLab is its focus on South Indian classical music, known as the Carnatic tradition. By combining this tradition with stochastic composition, a cross-cultural fusion and an enriching musical experience is achieved. In short, RagaLab represents an innovative contribution to the educational system by promoting the learning of mathematics in a playful and sonorous way, while exploring music creation through stochastic methods. Inspired by the vision of Iannis Xenakis, this project offers students and educators a tool that fosters creativity, sound exploration and understanding of mathematical concepts through music.



[FIGURES - RAGALAB.pdf](#)

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