

How to dance to a synthetic band

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Music plays an important role in most people's lives regardless of the genre and in a wide variety of contexts from celebrations and parties to simply providing background while a task is being performed. Until very recently, music was only heard when musicians played it live, the ability to record music displaced that live performance to some degree, and then the invention of electronic musical instruments and digitisation changed our appreciation of music yet again.

Electronic music is incredibly popular and yet the subtle and not-so-subtle difference between musical sounds generated electronically and those played by a musician on a physical instrument are a barrier to appreciation for some listeners. Now, a team from Fiji and New Zealand, Praneel Chand of Unitec Institute of Technology, in Auckland and Kishen Kumar and Kishan Kumar of the University of the South Pacific, in Suva, are investigating the possibility of using robotics to allow non-expert musicians to play a [musical instrument](#) well. The idea would allow analogue [music](#) to be created on the instrument with the computer providing some of the requisite timing and tonal skills that might well be beyond the performer.

The team has demonstrated proof of principle with a robotic pan pipe. The low-cost prototype can produce the desired [musical notes](#) and has the ability to override variations in air flow that a non-expert player might produce during a performance. The team adds that the same software and approach might also be used to control robotic components for other Pacific island instruments such as the percussive Fijian lali.

More information: Praneel Chand et al. Development of a low-cost robotic pan flute, *International Journal of Intelligent Machines and Robotics* (2018). [DOI: 10.1504/IJIMR.2018.094917](https://doi.org/10.1504/IJIMR.2018.094917)

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