**Robust Speech Direction Detection for Low Cost Robotics Applications**

**Link:** <https://www.eurasip.org/Proceedings/Eusipco/Eusipco2017/wpapers/ML2.pdf>

**1. Key Idea:**

The aim of this study was to implement a computationally inexpensive, iterative system to follow a human voice in real time, using low cost electronics and processors. Sound source localization does not require direct line of sight, and can be implemented relatively more easily than vision-based localization methods

**2. Background Knowledge:**

Previous efforts in sound source localization have extensively studied algorithms for localization and separation with differing kinds of microphone arrays and those are very complex and the basic goal of this study is to implement a system that iteratively changes its direction to move towards the source.

**3. Assumptions:**

We have to assume here that setup which have two separate microphones were connected as a stereo pair, via a USB sound card, to a Raspberry Pi. The RPi was placed atop a Roomba robot (robot which will follow that direction)

**4. Contribution:**

They aimed to investigate the applications of acoustic source localization and source separation in robot control, and implement a system for source localization on the Raspberry Pi Moreover, The system was tested with an instrumental version of a song on the flute playing from a device kept at one end of the room on the ground and it was found it moves iteratively towards that room.

**5. Critical Points:**

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