Liroy Lourenço

Ensuring radio astronomy sustainability, implementing advanced RFI mitigation.

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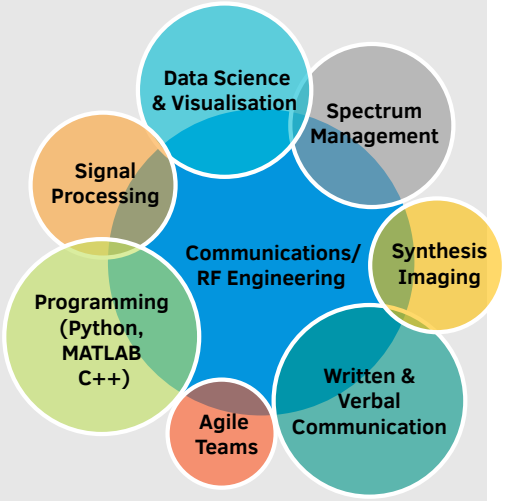
Skills



Professional Interests

- **Radio Frequency Interference**
- **Digital Signal Processing**
- **Radio Astronomy Interferomerty**
- **Spectrum Management**

About Me

Outside of work, I have volunteered at Engineers Without Borders, I enjoy music, cooking & travel. I am an Australian, South African & Portuguese citizen. I am eager to learn, value relationships & am hard-working.

Clifton Strengths

Input, Learner, Futuristic, 'Intellection' & Communication

Education

2021 - 2024 **Doctor of Philosophy** — University of Sydney
Sydney, Australia
Hunstead Merit Award for Astrophysics
Paulette Isabel Jones Career Award

2014 - 2018 **Bachelor of Science (Physics)/ Bachelor of Engineering (Communications & Electronics) (Hons)** — RMIT University
Melbourne, Australia
2016 ExxonMobil Award , 2017 Juniper Networks Prize.

2006 - 2010 **Bachelor of Music** — University of the Witwatersrand
Johannesburg, South Africa

Publications and Research Projects

May 2024 **Mitigation of self-generated RFI using ASKAP's phased array feeds**

Dec 2023 **Survey and Monitoring of ASKAP's RFI Environment and Trends I: Flagging Statistics**

Experience

Jan 2021 - Current **Engineer** — **CSIRO Space & Astronomy**
RFI mitigation with Phased Array Feeds including the ASKAP telescope. Including RFI survey of observatory to categorise RFI & assess the impact/improvement of the mitigation techniques on astronomical measurements. In particular developing and optimising subspace tracking techniques in software as RFI sources move relative to the telescope.

Nov 2018 - Dec 2020 **Project Coordinator/Data Engineer** — **Juniper Networks**
Part of the Advanced Services and DevOps/Automation team. The role involves, data cleaning, developing python libraries/scripts and data visualisation using Tableau. Previously created CLI software to simplify the process of creating automation scripts for Junos devices. Technical interests include data science/visualisation and Agile project management methodologies.

Nov 2017 - Oct 2018 **Industrial Trainee** — **CSIRO Astronomy and Space Science**
Engineering capstone project, aimed to support critical software & system developments to more easily configure & calibrate the beamformed characteristics of the ASKAP Radio Telescopes. The role included developing digital beamforming signal processing software, unittests & documentation as well as performing & design experiments involving ASKAP's 36 antennas.

References

Dr. Aaron Chippendale, Group Leader
Signal Processing Technologies — **CSIRO Astronomy and Space Science**
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Prof. Tara Murphy,
Head of School, School of Physics — **University of Sydney**
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