ATHIRA K RAGHUNADHAN

Doctoral Researcher

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CONNECT Centre

SUMMARY

Currently engaged in research focused on optimal monitor placement strategies in **Quantum Network Tomography**, a quantum estimation technique used to characterize quantum channels through end-to-end measurements between selected network nodes. This method enables the inference of error distributions across quantum channels without direct access to individual network components, significantly reducing measurement overhead and enhancing overall network management. This PhD position is part of a large-scale ambitious program named CoQREATE (Convergent Quantum Research Alliance in Telecommunications), involving top universities in the Republic of Ireland, Northern Ireland, and the US.

EDUCATION

DOCTORAL RESEARCHER FEB 2023 – PRESENT
CONNECT Centre, Trinity College Dublin, Ireland.

UGC NET QUALIFICATION NOV 2020, NOV 2021

MASTERS IN TECHNOLOGY AUG 2017–JULY 2019
Specialized in Embedded systems
APJ Abdul Kalam Technological University, Kerala, India.

BACHELORS IN TECHNOLOGY AUG 2012–JULY 2016
Specialized in Computer Science and Engineering
University of Calicut, Kerala, India.

RESEARCH VISIT

- Engaged in collaborative research on Quantum Network Tomography at the University of Massachusetts Amherst, USA as part of the CoQREATE Exchange Visitor Program, April-July 2024.

PRESENTATIONS

- Poster presentation at IEEE International Conference on Quantum Computing and Engineering (QCE), Montreal, QC, Canada, 2024
- Poster presentation at PhD-Research Symposium 2024, TCD.
- Poster presentation at CONNECT plenary, 2025.

PUBLICATIONS

- A. K. Raghunadhan, M. G. De Andrade, D. Towsley, I. Dey, D. Kilper and N. Marchetti, "Optimal Monitor Placement in Quantum Network Tomography," 2024 IEEE International Conference on Quantum Computing and Engineering (QCE), Montreal, QC, Canada, 2024, pp. 370-371, doi: 10.1109/Qce60285.2024.10310.