MOHANBABU MANI

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EDUCATION

MS Optical Sciences (Quantum Information Science and Engineering)   Graduation - Current
The University of Arizona, Tucson, Arizona
Wyant college of Optical Sciences
Relevant coursework: Quantum Reservoir Computing, Quantum Optics, Quantum Information Science

Integrated M.Sc. Physics   Graduation - Jul 2022
Pondicherry University, Pondicherry, PY   7.52 CGPA
Deaprtment of Physics
Relevant coursework: Computational Physics, Laser Optics

EXPERIENCE

Research Assistant: The University of Arizona, Tucson, AZ   Jan 2024 – Current

- Involved as a team member in the research laboratory investigation on squeezed light experiments for Scalable open quantum systems.
- Improvising the detection capability of the Balanced Homodyne Detector used to detect the squeezed light source.

Cybersecurity Analyst: Positka FSI Solutions, Chennai, TN   Sep 2022 – Sep 2023

- Orchestrated end-to-end incident response efforts as a key member of the Security Operations Centre (SOC) team; mitigated 50+ security incidents, reducing average resolution time by 40%.
- Piloted SIEM monitoring for clients and preparation of SOPs, Incident Response plans, and exercises to increase security awareness for the workforce that reduces paperwork by 20%.

ACADEMIC PROJECTS

Quantum Reservoir Computation   Jan 2024 - Current
Squeezed light experiments for Quantum Reservoir Computation in Scalable Open Quantum Systems.

- Working with Balanced Homodyne detection of squeezed light source for Scalable quantum systems application.
- Constructing an optimal BHD (Balanced Homodyne Detector) with 100MHz bandwidth detection range.

Quantum Cloning Machine   Jan 2022 - Jul 2022
Scrutinized the possibility of interception in the established channel that uses Quantum Key Distribution which is 10 times stronger than the classical standards.

- Tested attack vectors and efficiency of Quantum Key Distribution in Photonic Quantum Computer using Quantum Cloning Machine that works within the 35% threshold error rate.

Implementation of Quantum Key Distribution in Photonic Quantum Computer   Sep 2021 – Jan 2022
Established Quantum Key Distribution channel in Photonic Quantum Computer which is an alternative for classical encryption standards in defence applications within 5 years.

- Retrieved data with 90% accuracy and minimal QBER compared with superconducting qubits.

TECHNICAL SKILLS

Quantum Information Science: Quantum Optics, Quantum Reservoir Computing, Open Quantum Systems
Optical Sciences and Physics: COMSOL, Experimental Physics, Research Methodology
Programming and Others: Microsoft Office, Python, LaTeX, SQL, C, Bash, FORTRAN95
Certifications: Cybersecurity, Computer Forensics, Advanced System Security Design, Automation with Python, Blockchain

LANGUAGE CERTIFICATIONS

TOEFL Score-91   DELF A1 Score-73   German Score-69