DEEP K. LOKHANDE

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EDUCATION

Rutgers University, New Brunswick, NJ, USA *Aug 2018 - May 2021(Expected)*
Master of Science, Department of Electrical and Computer Engineering. **CGPA : 3.72**
Graduate Coursework: Algorithms, Machine Learning, Graph Theory, Quantum Information Science.

University of Pune, Pune, India *July 2013 - June 2017*
Bachelor of Engineering, Department of Electronics and Telecommunications. **GPA : 3.74**

ACADEMIC PROJECTS

Research on QKD Intro to Quantum Information Science | *Rutgers University, Fall 2019*

- Surveyed recent results and improvements in High Dimensional Highly Entangled State Quantum Key Distribution systems, and proposed theoretic schemes for further improvements in maximizing photon pairs utilization of time binning and entanglement based QKD.
- Proposed schemes are capable to reach near theoretical bounds, and thus providing better PIE and reducing unwanted wastage of bi-photons in time-binning QKD schemes.

Data Prediction & Interpolation Machine Learning | *Rutgers University, Spring 2019*

- Processed raw data from ManyLabs project for achieving missing data prediction and significant feature characterization, using statistical machine learning and hidden feature extraction algorithms.
- Programmed statistical algorithm for normalizing raw data and graphical model for feature dependency interference and data interpolation. Predicted satisfactorily(near 67%) of missing data and validated the projects main hypothesis. Comprehended the actual scenario and approach required for ML projects.

Quantum Error Correcting Codes Error Control Coding | *Rutgers University, Spring 2019*

- Studied techniques used in quantum computers and circuits for error correction and fault tolerance.
- Implemented the bit flip and phase flip quantum error correcting code, using IBM's Qiskit services on IBM's 5 qubit quantum computer.

Colorizer for Black & White Image Artificial Intelligence | *Rutgers University, Fall 2018*

- Modelled a linear regression based learning model in python for converting black and white images to color using training on color and black/white duals of images without semantic classification of objects.
- Studied the useful features of regression learning models and other factors contributing to better performance of the model in learning conditions limited to non-contextual and localized features.

TECHNICAL STRENGTHS

Programming Skills	Python, Java, HTML, Scala, R.	**Services Handled**	AWS, Git, Qiskit.
Software & Tools	MATLAB, Visual Studio, Qt3.	**Operating Systems**	Windows, Linux.

PROFESSIONAL EXPERIENCE

Research Assistant Prof. Emina Soljanin's Lab | *Rutgers University* | *May - August 2019*

- Researched on Quantum Approximate Optimization Algorithm(QAOA) for solving graph based and semi-definite programming problems for use in NISQ computer era.
- Implemented an algorithm for finding the Max Cut of a graph using IBM Qiskit.

Research Assistant University of Pune, India | *November 2017 - May 2018*

- Researched on unexplored human bio-metrics and security features which can be used in future security system's with low financial requirements. (Project was sponsored by Government of Maharashtra).
- Modelled a bi-layered security system based on palm print and vein features using low cost equipment.

ACADEMIC ACHIEVEMENTS & LEADERSHIP EXPERIENCE

Departmental Head for Technical Activities University of Pune | *A.Y. 2015 - 2016*

- Administered various events, seminars and workshop on topics of electronics and programming. Organized informative sessions on pathways for higher education & skills required for modern industries.