

EESH GUPTA

Undergraduate Student in Physics
Rutgers University, New Brunswick NJ

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RESEARCH INTERESTS

Quantum Computing & Quantum Simulation:
Electronic structure, variational algorithms, quantum error mitigation

EDUCATION

Rutgers University	2019 - Present
B.S. in Physics	
B.A. in Computer Science	
Societies: Society of Physics Students, Rutgers Concert Band	

RESEARCH EXPERIENCE

Undergraduate Research Assistant, Rutgers University-New Brunswick	2019 - Present
Supervisor: Stephen Schnetzer, Ph.D.	
Topic: Quantum computations of molecular ground states; investigating Variational Quantum Eigensolver (VQE) in computing ground state energy of the Hydrogen molecule; comparing noise amplification techniques in Zero Noise Extrapolation (ZNE), error mitigation technique; performed statistical analysis of Polynomial and Richardson Extrapolation.	

Research Programming Intern, University of Nebraska-Lincoln	Summer 2018
Supervisor: Ashu Guru, Ph.D.	
Topic: Agricultural Education; front-end programming on “Agpocalypse 2050” project; investigated criteria for effective, educational video games.	

PRESENTATIONS

E. Gupta, S. Schnetzer, R. Gambhir. Error Mitigating Quantum Computation of Molecular Ground States.

- Poster Presentation by E.Gupta at 2020 Virtual Summer Science Poster Session, Aresty Research Center for Undergraduates, July 2020.

E. Gupta. Quantum Computing Electronic Structure.

- Talk by E. Gupta to Professor Richard Remsing's chemical physics group, Rutgers University, May 2020.
- Talk by E. Gupta to Stephen Schnetzer's Vector Like Quarks (VLQ) group, Rutgers University, May 2020.
- Talk by E. Gupta at Quantum Computing Workshop, New Jersey section of the American Association of Physics Teachers (NJAPT), June 2020.

HONORS AND AWARDS

The Timothy Hubbard Scholarship Spring 2021
(\$1,500) Rutgers School of Arts and Sciences (SAS) Excellence Award for academic merit and strong record of service to university and/or community.

Robert L. Sells Scholarship Spring 2021
(\$5,000) Awarded annually to two Rutgers physics majors who, in the judgment of the physics faculty, have demonstrated outstanding academic excellence.

Aresty Summer Science Research Fellowship Summer 2020
(\$3,000) Aresty Research Center for Undergraduates, Rutgers University

IBMQ Qiskit Advocate Summer 2020
Recognized for code contributions and community outreach by IBM's quantum computing community.

Dean's List 2019- Present
Rutgers University

OUTREACH

Hacking Workshop March, 2021
Society of Physics Students
Delivered an oral presentation and led interactive coding session on quantum computing and Quantum Teleportation algorithm for undergraduates.

Virtual Workshop July, 2020
Governor's School of New Jersey
Delivered an oral presentation and led interactive coding session on quantum computing and Variational Quantum Eigensolver algorithm for high school students.

OTHER

- Programming Experience and related coursework in **Python, Java, C** and **C#**.
- Citizenship: Indian; Permanent Resident of United States