

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), an 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

Aresty Summer Science Research Fellowship (\$3,000) Aresty Research Center for Undergraduates, Rutgers University	Summer 2020
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IBMQ Qiskit Advocate Recognized for code contributions and community outreach by IBM's quantum computing community.	Summer 2020
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Dean's List Rutgers University	2019- Present
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OUTREACH

Virtual Workshop 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.	July, 2020
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OTHER

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