**Ahitagni Das**

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## Education

**RICE UNIVERSITY** Houston, TX
BS Electrical and Computer Engineering; BA Computer Science 2027

## Experience

**RICE UNIVERSITY – BARANIUK GROUP** Houston, TX
**AI Research** August 2024 - May 2025

- Research in the application of Spline theory in computer vision and deep learning

**MIT Media Lab** Boston, MA
**NanoCybernetic Biotrek** May 2024 - Aug 2024

- Research in sub-cellular injectable bioelectronics for cancer research/ neuromodulation
- ML based prediction of onset of action potentials in Patch Clamp experiments

**RICE UNIVERSITY – AJAYAN LAB** Houston, TX
**Research Scholar** Aug 2023 – Present

- Sodium intercalation into Nitrogen-Phosphorous-Doped Graphene extracted from Plastic waste (HDPE, LDPE, PP) for development of efficient Na-ion battery anodes
- h-BN in Sodium and Lithium Ion Batteries (Review, pending Publication)
- Lithium Ion Batteries using industrial waste derived carbon (GS100, CB100)

**RICE ECLIPSE – PAYLOAD ELECTRONICS LEAD** Houston, TX
**Payload Electronics** Aug 2023 – Present

- Design the electronic systems for an in-flight scientific experiment in collaboration with a Rice Lab for Rice's rocket for the 2025 Spaceport America Cup.

**RICE ELECTRIC VEHICLE – MECH TEAM** Houston, TX
**Competition Car Team** Aug 2023 – Present

- Part of the team responsible for designing and constructing an electric powered efficient vehicle for the National Efficiency Car Competition of Shell Eco-Marathon.

**INDIAN INSTITUTE OF TECHNOLOGY** Guwahati, India
**Research Scholar** June – Aug 2022

- Conducted an independent research on finding a novel method of converting plastic waste to Boron and Nitrogen Doped Graphene to generate electricity using blue energy devices
- Project acquired by the lab as a potential PhD project, currently in further development
- Won a First Special Award by Mawhiba at the International Science and Engineering Fair in Dallas, consisting of a USD 60K+ Full Scholarship to the King Fahd University, a funded 3 week camp at the King Saud University, and a USD 400 Cash Award

**ARDA (DRONE DELIVERY COMPANY, HARVARD)** New York City, New York
**Strategic Alliances Lead** Sept 2022 - June 2022

- Orchestrated a partnership with the UN Environment Assembly to introduce Arda's cold chain drone deliveries in Nigeria; lead Arda's expansion in Nigeria
- Formed a report on the African Pharmaceutical Logistics Market (30+ companies) to support business relations & development

**CITY COLLEGE OF NEW YORK** New York City, New York
**Teaching Assistant** June - Aug 2021

- Worked as the youngest TA in Calculus 20100 by Dr. Dario Cardenas
- Instructed a class of 40+ students in 3 hours of weekly TA office hours besides clearing doubts during class, managed coursework and tests on Blackboard and other university specific systems

**NEW YORK MATH CIRCLE** New York City, New York
**Teaching Assistant** Jan - Mar 2022

- Instructed a class of 12 students in the MS-B Program
- Managed coursework, created problem sheets, and cleared doubts on Google Classroom

## Scholarship Programs

**WORLD SCIENCE SCHOLAR** New York City, NY
World Science Foundation 2022 - 23

- Coursework: 'Space time and matter' with Dr. Brian Green, Columbia University; 'Starquakes and Exoplanets' with Dr. Conny Aerts, KU Leuven; 'Metamaterials' with Dr. Andrei Alu, CUNY; 'The Neurobiology of Vocal Learning and Spoken Language' with Dr. Eric Jarvis, CUNY
- Attended the World Science Festival on a fully funded trip by the WSF in NYC

**UPENN SUMMER MATH ACADEMY** Philadelphia, PA
Summer Student 2021

- Coursework: Partitions by Dr. Jonathan Block, Linear Algebra and Applications with Dr. Davi Maximo, Power Series, Difference Equations and Recurrence Relations with Dr. Robert Strain, Topics in Graph Theory by Dr. Henry Towsner

**JOHNS HOPKINS UNIVERSITY** Baltimore, MD
Pioneer Academics Program 2022

- Research Paper in 'Exact Bound and Scattering State Scalar Field Solutions in Schwarzschild Spacetime' under supervision of Dr. David Kaplan

## Awards

**Excellence in Undergraduate Research,** Dept. of Material Science and NanoEngineering, Rice University, 2024
**Trustees Scholarship, Rice University,** 2023, Full Scholarship with living, board, and a stipend to study Material Science and Nanoengineering at Rice University
**International Science and Engineering Fair,** 2023, Dallas, TX, First Special Award by Mawhiba in Environmental Engineering
**International Science and Engineering Fair,** 2022, Atlanta, GA, Finalist in Physics for project in hydrodynamic quantum analogs
**International Young Physicists Tournament**, 2021, Selected into the Indian National Team for solving 2/17 released research problems (1) Dynamic Hydrophobicity (2) Aspect ratio of a fair 3D coin
**CERN Beamline**, 2022, Top 24 teams, Scintillator Afterglow Effect due to Nuclear Transmutation (SAENTs)
**Spirit of Ramanujan Fellowship**, 2022, USD 6450 Award, Templeton Foundation and Dr. Ken Ono, UVA
**Indian National Science & Engineering Fair**, 2021, Gold Award (Regional); Honorable mention (National)

## Skills & Interests

**Language:** Native or bilingual proficiency in English, Bengali, and Hindi
**Laboratory:** Deep learning, Machine Learning, AI, Quantitative methods, Quantitative research, Lithography, Cleanroom deposition techniques, Material Characterisation