Ahitagni Das

+1 682 403-(5658) | ahitagnied@rice.edu | ahitagni.rice.edu

EDUCATION

RICE UNIVERSITY — Houston, TX

B.S. Electrical and Computer Engineering, B.A. Computer Science, GPA 3.96/4.0 — 2027

Relevant Coursework: Data Structures & Algorithms, Machine Learning, Computer Networks, Python, Linear Algebra, Multivariable Calculus, Differential Equations, Signals and Systems, Circuit Analysis & Design

Activities: Trustees and Sarofim Scholar, President's Honor Roll, ECLIPSE Competitive Rocketry, Competitive Sailing, ML@Rice

Interests: ML Engineering, Deep Learning, Quantitative Research, Generative Modeling, Synthetic Data Training

PROFESSIONAL EXPERIENCE

LOTUS HEALTH AI, MIT SANDBOX — Remote
Software Engineering Intern — Sept 2024 - Present
- Building the front & back-end of the MVP Patient App of a Patient & Medical Provider RBAC System
- React.js, React Native, Node.js, Express.js, AWS, OpenAI API, SDK & API of medical devices

RICEU, VEERARAGHAVAN GROUP — Houston, TX
Undergraduate Research — Aug 2024 - Present
- Employing implicit neural representations to use shiny surfaces as Radience Field Cameras, advised by Dr. A. Veeraraghavan
- PyTorch, TensorFlow, Deep Learning, Computer Vision and Graphics, Mitsuba Renderer, OpenCV, Matplotlib

RICEU, OSHMAN ENGINEERING DESIGN KITCHEN (OEDK) — Houston, TX
Design Mentor — Aug 2024 - Present
- Design Mentor supporting teams in the engineering design process to solve real-world problems with active clients.
- Projects include designing a non-invasive infant suction-measuring device in collaboration with UT Health & designing a wearable device to monitor posture during sports activities for individuals recovering from leg injuries.

MIT MEDIA LAB, NANO CYBERNETIC BIOTREK (SARKAR LAB) — Boston, MA
Visiting Research Scientist — May - Aug 2024
- Fabricated 50 μm CMOS compatible injectable devices to power colloidal bio-robots, capable of storing 0.25 μJ
- Developed ML models to predict spontaneous neuron firings, achieving 86% accuracy over 100k+ Patch-Clamp datapoints
- PyTorch, TensorFlow, Matplotlib, MATLAB, Pandas, Clean Room Fabrication, SEM, AFM, TEM, XRD, Comsol Multiphysics

RICEU, AJAYAN GROUP — Houston, TX
Undergraduate Research — Aug 2023 - Aug 2024
- Submitted to ACS Nano, a research paper on Hexagonal-Boron Nitride based Sodium and Lithium Ion Batteries
- Accepted to Springer, The Journal of Material Science, a review on The Efficient Sodium Ion Batteries in Electric Vehicles
- Fabricating Efficient Li-Ion Batteries using Industrial Waste Derived Carbon (to be published in ChemComm by invitation)

INDIAN INSTITUTE OF TECHNOLOGY (NANOFLUIDICS LAB) — Guwahati, India
Visiting Research — Jun - Aug 2022
- Discovered a novel method to convert plastic waste to B/N-Doped Graphene, to generate 120 mV & 0.8 μA from 6g of waste
- Won the First Special Award at the Int'l Science & Engineering Fair 2023, & a $60K+ scholarship to the King Fahad University

ARDA, HARVARD INNOVATION LABS — Remote
Strategic Alliance Lead — Sept 2022 - Jun 2023
- Orchestrated a partnership with the UN Environment Assembly to introduce Arda's cold chain drone deliveries in Nigeria
- Formed a report on the African Pharmaceutical Logistics Market (30+ companies) to support business relations and development

CLUBS & EXTRACURRICULARS

RICEU, ECLIPSE — Houston, TX
Lead, Payload Team — Mar 2024 - Present
- Leader of 20+ member team, building the electronics & software of a rocket payload for the 2025 SpacePort America Cup
- Engineering a deployable $10 \times 10 \times 30$ cm (3U) Hyperspectral Imaging (HSI) Camera for monitoring agricultural cover in Houston

ML@RICE — Houston, TX
Lead, LLM Team — Aug 2024 - Present
- Leader of a selective 3 member team, developing a scientific document comprehension platform using NLP & Explainable AI
- Implementing key features such as smart text highlighting, localized chat-bots, & document analysis with contextual insights

PROJECTS

CTC, Black-Scholes model returning 4.7x over randomised 3-month periods on European-Style Option Contracts — CTC 2024
Schedulize, a ML based task and calender management system WebApp that works in sync with GCal — HackRice 2024
Autonomous Rocket Recovery System, Python, RaspberryPi, IMU, Microcontrollers, GPS — Rice Engineering Showcase, 2024
Victim Seeking Device for Earthquake Rescue, C++, Vivaldi Antennae, KiCad, GPR — Rice Engineering Showcase, 2024

AWARDS

Cornell Trading Competition (CTC), Placed 4th out of 40+ teams — 2024
Excellence in Undergraduate Research, George R. Brown School of Engineering, Rice University — 2024
International Science and Engineering Fair, First Special Award — 2023 & 2022
CERN Beamline, Top 24 teams, Scintillator Afterglow Effect due to Nuclear Transmutation (SAENTs) — 2022
Spirit of Ramanujan Fellowship, John Templeton Foundation — 2022
Summer Math Academy Fellow, University of Pennsylvania — 2022

SKILLS

Languages: Python, C++, JavaScript, PyTorch, TensorFlow, MATLAB, Matplotlib, NumPy, Pandas, LaTeX
Laboratory: Cleanroom Fabrication & Photolithography, XRD, AFM, TEM, SEM, FTIR, Battery Fabrication & Testing