Neha Nataraj

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EDUCATION

Georgia Institute of Technology, Atlanta, GA **May 2028**
Bachelor of Science in Computer Science, Threads: Intelligence and Cybersecurity **GPA: 4.0/4.0**
Relevant coursework: Linear Algebra, Multivariable Calculus, Object-Oriented Programming, Data Structures
PrizePicks and Matt Steele Track Winner (1/450 participants) — AI ATL Hackathon

Lambert High School, Suwanee, GA **May 2025**
High School Diploma **GPA: 4.71/4.0, Rank 6/783 (Top 1%)**

TECHNICAL SKILLS

Languages: Python, R, Java, JavaScript, TypeScript, Bash
Frameworks & Tools: AWS (Lambda, EC2, S3), REST APIs, Postman, React, Next.js, Node.js, OpenCV, scikit-learn, pandas, numpy, Git
Technical Focus: Machine learning, statistical modeling, data analysis, computer vision, backend integration, cloud-based systems, research & technical writing

EXPERIENCE

Scientific Computing / Research Software Intern **Sept. 2025 – Present**
Georgia Institute of Technology, Center for Relativistic Astrophysics Atlanta, GA

- Conduct computational simulation and large scale data analysis for the Trinity telescope project, optimizing high-throughput with **Bash** workflows and analyzing results in **Python**.
- Analyze relationships between physical parameters (energy, wavelength) to improve signal identification and background rejection, with a focus on tau neutrino detection in high energy cosmic ray experiments.

Machine Learning Intern **May 2024 – July 2025**
University of Georgia, Department of Statistics Athens, GA

- Developed and evaluated p-value weighting approaches to improve genetic association accuracy across **16** traits and **6M** SNPs using **R** and **Python**.
- Modeled q-value variance as a function of percent tagged variance (PTV) and implemented GWAS pipelines to identify links between traits and genetic variants.

Software Engineering Intern **May 2023 – Aug. 2023**
CyberSoftware Remote

- Worked on backend integration for a startup product, assisting with the implementation and testing of REST APIs using **Postman** and cloud services on **AWS**.
- Supported API debugging, request validation, and service configuration to improve reliability and data flow between system components.

PUBLICATIONS

Nataraj, N. & Manoharan, A. (2024). *A Comprehensive Review of the Legal Challenges Posed by Deepfake Technology.* Journal of Student Research, 13(3). DOI: 10.47611/jsrhs.v13i3.7273.

PROJECTS

Founder of Bridge4Good, AI based Nonprofit Platform **May 2022 – Aug. 2025**

- Built a **random forest** model in **Python** to target donations toward underserved regions, creating partnerships with **23** homeless shelters and raising **$16K+**.
- Led expansion across **5** chapters in the U.S. and U.K., organizing events attended by **500+** people and contributing to outreach impacting **10,000+** individuals.

NBA Gesture Predictor github.com/Pudging/AIATL **Fall 2025**

- Built a real time NBA game prediction platform by developing a **Node.js** and **Express** backend with **WebSockets** to stream live play by play data, and a **React** frontend integrating **TensorFlow.js MoveNet** for webcam shooting gesture detection, earning **1st place** in the PrizePicks and Matt Steele track out of **450** participants.

Computer Vision Aided Navigation for the Blind **Oct. 2023 – July 2024**

- Developed a low cost assistive navigation prototype using **computer vision** on a **Raspberry Pi**, providing real-time narration of surroundings as a **$10** alternative to existing **$4,000** solutions.
- Piloted the system in collaboration with the Karna Vidya Foundation to evaluate real world usability.