Ambareesh Shyam Sundar

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Education

Georgia Institute of Technology • GPA: 4.0 / 4.0 — Expected Graduation: **May 2026**
Bachelor of Science, Computer Science — Atlanta, GA
Bachelor of Science, Mathematics

- Relevant undergraduate-level coursework: Data Structures (Java), Computer Organization and Programming, Design of Digital Systems, Introduction to Perception and Robotics, Computer Systems and Networking
- Relevant graduate-level coursework: Algorithms, Abstract Algebra, Measure Theory
- Clubs and organizations: GT Web Dev Club, GT Video Game Development Club, GT Competitive Math

Projects and Experience

Research with GT Computational Neuroscience group — **January 2024 - present**
Research Assistant — *Skills: PyTorch, computer vision*

- Write, test, and optimize biologically inspired machine learning models for active computer vision using PyTorch
- Develop novel masked image modeling algorithms to achieve accurate image classification results while using fewer computational resources than traditional methods

GT/IBM Virtual Summer Internship Program — **May 2024 - August 2024**
Developer — *Skills: PyTorch, Python, C++*

- Worked with mentors from IBM to learn about and contribute to various projects under the PyTorch Foundation, including the main PyTorch repo and PyTorch tutorials
- Debugged erroneous code relating to the Torch just-in-time compiler and TorchDynamo

Dungeon Deja Vu • ☎ dsfhdshdjtsb/dungeon-deja-vu — **August 2024**
Gameplay and Audio Programmer — *Skills: Rust, Bevy, Game Development*

- Created a full-fledged platformer game with 6 levels and ~1 hour play time for Bevy Game Jam #5
- Placed 8th overall out of 77 entries, winning 3rd place in the Game Design category
- Used Rust and the Bevy game engine to implement core gameplay logic and audio systems

Coda • ambareesh1510/coda — **April 2023 - December 2023**
Developer — *Skills: Rust, Low-level Audio APIs*

- Used cross-platform audio libraries to develop a parser and interpreter for a music synthesis programming language designed around low-level frequency manipulation
- Implement custom audio rendering logic to produce a variety of different sounds

Research on Chaotic Hash Functions • ambareesh1510/chaotic-hash-functions — **November 2023**
Independent Researcher — *Skills: C, Python/Jupyter Notebook, data analysis*

- Completed a research project regarding the effectiveness of cryptographic hash functions designed using simple discrete chaotic maps as a part of MATH 4541 (Dynamics and Bifurcations I) at Georgia Tech
- Programmed and benchmarked various hash algorithms in C, then analyzed the results using NumPy and Matplotlib

GT Reviews — **September 2023 - November 2023**
Backend Programmer — *Skills: React, Firebase, Rust, web scraping*

- Designed a website to aggregate student reviews for professors, classes, dining halls, and residence halls at Georgia Tech
- Used Rust Selenium libraries to scrape professor information from Georgia Tech websites and store it in Firebase, and developed an API that allowed access to this data from the frontend

Awards — Four-time AIME qualifier; high score of 7 — National Merit Scholar — Eagle Scout

Technical Skills — Linux Git Rust C/C++ Python PyTorch Java React PostgreSQL LaTeX

Languages — English (native) Tamil (native) Mandarin Chinese (proficient) Sanskrit (proficient)