Ashwin Mudaliar

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EDUCATION

GEORGIA INSTITUTE OF TECHNOLOGY **Atlanta, GA**

Bachelor of Science in Computer Science and Bachelor of Science in Mathematics *May 2026*

- Threads & Concentrations: Artificial Intelligence and Devices & Pure Mathematics GPA: 4.0/4.0
- Relevant Coursework: Data Structures and Algorithms, Computer Organization and Programming, Object-Oriented Programming, Linear Algebra, Multivariable Calculus, Foundations of Mathematical Proof

EXPERIENCE

GT Tinker Laboratory **Atlanta, GA**

Undergraduate Research Assistant *August 2023 – Present*

- Developing a high-level quantum programming language based on Python to make quantum programming more accessible
- Improving the efficiency of Shor's Algorithm by increasing the speed of modular multiplication with Fourier Transforms

Storm Robotics **Alpharetta, GA**

CEO & Founder *October 2021 – August 2023*

- Founded a 502(c)(3) to oversee $100,000 for 1 high-school FRC and 2 elementary FLL teams comprised of 80 students
- Oversaw the construction, design, and programming for a 125-lb robot that competed at 6 multi-national competitions
- Developed a curriculum on Gradle, Java, and SolidWorks for over 30 students to introduce advanced robotics concepts
- Led team to the World Championship and received the Rookie Inspiration Award in recognition of our unparalleled effort

PROJECTS

Partier *July 2023 - Present*

- Engineering a web platform that allows users to create, register, and explore events to enhance social experience
- Utilizing deck.gl, Pinecone, React, and Express.js to implement a social network and interactive 3D Map to display events
- Creating a social network to promote security and allow users to create exclusive events using Node.js and MongoDB

Raffy.io *July 2023*

- Designed a frontend that allows users to create raffles for events, draw tickets, and win prizes fully online in real-time
- Used Express.js and MongoDB to develop an API with 20 routes that stores and processes event data and raffle winners
- Employed Hash Codes and Cryptography keys to generate unique event codes, using AWS to host the platform

Thermal Camera *August 2022 – May 2023*

- Constructed and programmed a Raspberry-Pi based thermal camera that identifies regions of inflammation in patients
- Applied advanced interpolation algorithms to increase the effectiveness and quality of the camera by over 50%
- Presented device at HOSA (Healthcare) State Leadership Conference placing 4th in the Medical Innovation Category

Hangman Application *March 2023*

- Assembled a traditional Hangman mobile with a simple user interface that allows up to 5 users to compete in a game
- Employed Dart and Flutter to create a shared code base that compiles to both the iOS and Android operating systems
- Won the First Place Award in the Mobile Applications Category at the Fulton County Schools Technology Fair

Storm Robotics Website and Blog *June 2022 – July 2022*

- Built a website, blog, and corresponding server and deployed them using Vite, an AWS EC2 instance, and AWS Route 53
- Improved loading times for Web.gl and Three.js based pages by 50% by optimizing load times and compilation process
- Used Node.js, Express, and MongoDB to develop a full-stack markdown blog to display team news and team updates

UCSD Text Application *July 2020*

- Implemented a text-editor application using JavaFX that provides users with text generation and spell-check services
- Applied Stochastic Markov Chains based on the user's current text input to improve speed of text generation by 30%
- Developed a spell-check algorithm using HashMaps and Binary Search Trees to analyze mistakes and correct them

SKILLS

Software:	React, MongoDB, Express, SolidWorks, AWS, Node.js, Flutter, TensorFlow, Vite, Three.js, Git
Programming:	Java, Dart, JavaScript, C/C++, Python, Rust, Assembly, HTML, TypeScript, CSS, PHP
Languages:	English (Fluent), Tamil (Fluent), French (Conversational)
Awards:	US Presidential Scholar Finalist, SAT Perfect Scorer, Nationally Ranked Squash Athlete
Interests:	Quantum Computing, Football, Basketball, Proof-Based Math, Hip-Hop Music, Mexican Food