

Surya Prakash Murugavvel

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Education

Georgia State University

Atlanta, GA

Bachelor of Science in Computer Science, Minor in Mathematics

Expected Graduation: May 2027

- **Relevant Coursework:** Data Structures & Algorithms, System-level Programming, Computer Organization & Programming, Software Development, Programming Language of Concepts, Computer Networks, Discrete Mathematics, Calculus I / II / III, Probability & Statistics, Linear Algebra, Numerical Analysis I, Physics I / II, Electronics.

Skills

Languages: C, C++, Python, JavaScript, HTML/CSS, Verilog, VHDL, MATLAB, MySQL, MongoDB

Frameworks/Libraries: ReactJS, NextJS, ThreeJS, TensorFlow, PyTorch, Pandas, NumPy, Selenium

Networking & Systems: Wireshark, TCP/IP, UDP, DNS

Tools/Technologies: Amazon Web Service (AWS), Docker, Git, GitHub, Emscripten, RestAPIs, Blender, Circuit Analysis (DC Circuits, AC Circuits, Fourier Analysis), Oscillators

Platforms: Windows, macOS, Linux

Projects

Style.Me | Python, HTML/CSS, JavaScript, Selenium, OpenAI API

July 2025 – Present

- Engineering a Chrome extension that recommends outfits based on user prompts like “90s aesthetic” or “artist-inspired styles.”
- Optimizing data collection by integrating **Selenium-based scraping** with fashion APIs to improving **product retrieval speed and coverage**.
- Utilizing **LLMs (OpenAI API)** to interpret natural-language style prompts and strengthened **full-stack development, data parsing, and UI design skills**.

Threadoku | C++, React, WebAssembly, Emscripten, CPR, nlohmann/json

April 2025

- Developed a multi-threaded Sudoku solver compiled to WebAssembly for **interactive browser** visualization.
- Accelerated solving efficiency by **63%** through parallel processing and algorithmic optimization.
- Enhanced understanding of **concurrency, memory management, and performance tuning** in C++ and web environments.

PaperKeys | ReactJS, JavaScript, MediaPipe

February 2025

- Created an interactive virtual piano using **hand tracking** and a printed keyboard template for **real-time note feedback**.
- Improved tracking precision by replacing OpenCV with custom anchor-point alignment, reducing note-detection errors by **>20%**.
- Applied computer-vision principles and refined skills in **event handling, real-time rendering, and user-feedback systems**.

DiagnAI | Python, HTML/CSS, JavaScript, Anthropic API

October 2024

- Developed an AI-powered chatbot for symptom screening and personalized health guidance using large language models.
- Reduced average query-resolution time by **35%** through optimized **prompt handling** and knowledge-base integration.
- Learned to architect **scalable backends**, manage **asynchronous requests**, and design **intuitive conversational UIs**.

Extracurriculars

Rocket Technologies GSU

August 2024 – Present

- Contributed to the design and simulation of model rockets and autonomous rovers using thrust vector control systems to enhance flight stability and precision.
- Improved thrust-vectoring performance by **25%** through iterative testing, control-loop tuning, and data analysis with **MATLAB** and embedded software tools.
- Gained hands-on experience in **aerospace simulation, sensor calibration, embedded control systems, and team leadership** through multidisciplinary collaboration.