

Nafis Anwar

Tampa, FL | 656-203-8046 | anwarnafisneo@gmail.com | [linkedin.com/in/nafisanwar](https://www.linkedin.com/in/nafisanwar) | [nafisanwar.github.io](https://github.com/nafisanwar)

SUMMARY

Full-stack & backend-leaning Software Engineer with strong C++ and Python foundations in data structures, algorithms, and computer architecture. Built and deployed systems including a Dockerized RSA cryptography platform (30% faster than a pure C# baseline, 100+ rps), a C++ virtual machine compiled to WebAssembly with a React IDE, an NLP/FAISS semantic-search platform over 28k+ posts, and a Windows stock analysis tool with candlestick visualizations. As an RA, I document, communicate, and raise team execution, ready to contribute quickly and effectively in a software engineering internship.

EDUCATION

University of South Florida

Bachelor of Science in Computer Science

- GPA: 3.80

Aug 2023 - May 2027

Tampa, FL

EXPERIENCE

Residential Education at USF

Resident Assistant

Aug 2025 - Present

Tampa, FL

- Created **automated reporting and tracking systems** for community metrics, handling **18 conflict resolution cases** and **58 technical inquiries** with systematic documentation while serving as the first point of contact for **500+ residents** across our assigned residential spaces.
- Fostered community engagement by organizing and facilitating 2 social and educational programs per semester, averaging 20 attendees, and boosted floor participation by **26%** for 34 residents within my community.

Google Developer Group

USF Technical Marketing Lead

May 2025 - Nov 2025

Tampa, FL

- Standardized **Canva/Adobe templates** and introduced automation for asset requests, reducing design turnaround from 4 days to 2 and supporting the creation of over **52+ assets** for more than **30 core developers**.
- Created **technical documentation** and educational content for developer community events, managing a content pipeline serving **500+ group members**, while collaborating with cross-functional teams on technical event planning and developer experience optimization.
- Developed detailed run-of-show documents and comprehensive asset packs using **JavaScript** and **Canva** to keep cross-functional teams aligned, resulting in smoother event executions and improved team collaboration

PATHFINDER Team - Engineering Lab at USF

Lead Developer

Aug 2023 - Dec 2023

Tampa, FL

- Led a **cross-functional team of 4** in designing and implementing an **obstacle-avoiding robot**, programming and testing **C and Assembly code** in **Arduino IDE** to synchronize servo motors with ultrasonic sensors, achieving a **60% improvement** in real-time obstacle detection and avoidance
- **Enhanced system reliability** by debugging with terminal tools, serial monitor, and logic analyzer to resolve timing issues (**95% fewer collisions**), and by designing comprehensive **edge-case test scenarios** in both simulated and real-world conditions to ensure rover-level robustness.
- Stood up a **Git-based workflow with code reviews and issue tracking**; produced build/test docs so new contributors could reproduce results quickly.

SQUARE International - Textiles Division

Human Resources Intern

Sep 2022 - Dec 2022

Dhaka, Bangladesh

- Validated **250 employee records in Optic and HCMS systems** by performing **data migration** and ensuring compliance with internal protocols. Participated in developing an **automated HR tracking system** using a relational database, which reduced reporting errors by 18%.
- Built **Excel/SQL reports** to summarize attendance and status changes for weekly leadership reviews, improving visibility into compliance gaps.

PROJECTS

Stock Analysis Visualizer | C#, .NET WinForms

Oct 2025 - Nov 2025

- Built a Windows Forms application to **visualize stock OHLC candlesticks** and volume from **Yahoo Finance CSVs** using the **.NET charting library**, with data binding directly to chart series.
- Implemented **multi-CSV support** (day/week/month views), normalized OHLC price ranges with padding, indexed trading days to hide weekend/holiday gaps, and a refresh pipeline that updates charts without reloading files.

GritVM Web IDE | C++, WebAssembly (Emscripten), React.js, TypeScript, Monaco Editor, Vercel

Aug 2025 - Sep 2025

- Compiled a C++ **virtual machine** to **WebAssembly** with **Emscripten**, exposing functions like load, reset, single-step, run, and state inspection to JavaScript bindings.
- Built a **React + Monaco-Editor IDE** that highlights the current instruction and live-updates register and memory panes on each **VM step**, using a compact **JSON** state representation from the WASM module.
- Packaged the frontend + **WASM bundle** and deployed to **Vercel** with optimized asset caching so the IDE runs entirely client-side with no backend dependencies.

RSA Full-Stack Educational Playground | C, C#, ASP.NET Core, REST APIs, Docker

Jul 2025 - Aug 2025

- Implemented **key-generation, encryption, and signing flows** using big-integer operations and modular arithmetic, and profiled different exponentiation strategies to achieve **30% faster** RSA operations than a baseline **C# implementation**.
- Wrapped the native library in an **ASP.NET Core** backend via **C# P/Invoke** and exposed **REST endpoints** for key ops with structured **JSON requests/responses** and robust error handling.
- Containerized the service with **Docker** (build toolchain + native lib + runtime) and documented example **curl/client calls** so students can spin up and use the API consistently across environments.

MediTrends | Python, Flask, FAISS, TensorFlow, PyTorch, Tailwind CSS

May 2025 - Jun 2025

University of South Florida

- Used **FAISS vector indexes** and efficient batching to support semantic search over **28k+ posts** in **~110 ms** per query, and built **aggregation logic** to compute volume, growth rate, and **sentiment KPIs** per community.
- Applied **NLP pipelines (TensorFlow, PyTorch)** for clustering and trend detection, generating reports with **3 KPIs (volume, growth, sentiment)**.
- Implemented a **Flask backend** with endpoints for search and trending and **ML-enhanced semantic search**; delivered a clean, responsive **Tailwind** frontend.

TECHNICAL SKILLS

- **Programming Languages:** C++, Python, Java, C#, C, JavaScript, HTML5/CSS, SQL, Assembly (Arduino IDE)
- **Frameworks/Tools:** Flask, React.js, ASP.NET Core, .NET, Spring Boot, WinForms, Tailwind CSS, TensorFlow, PyTorch, FAISS, MongoDB, Git, Arduino, Rest APIs
- **Cloud/DevOps:** Docker, Vercel, AWS, Azure, Amazon RDS
- **Core Knowledge:** Data Structures, Object-Oriented Design, RISC-V, Computer Architecture, Computer Organization, Analysis of Algorithms, Software System Development, Artificial Intelligence