

Nafis Anwar

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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

- 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.

Aug 2025 - Present

Tampa, FL

Google Developer Group

USF Technical Marketing Lead

- 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

May 2025 - Nov 2025

Tampa, FL

PATHFINDER Team - Engineering Lab at USF

Lead Developer

- 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.

Aug 2023 - Dec 2023

Tampa, FL

SQUARE International - Textiles Division

Human Resources Intern

- 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.

Sep 2022 - Dec 2022

Dhaka, Bangladesh

PROJECTS

Stock Analysis Visualizer | C#, .NET WinForms

- 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.

Oct 2025 - Nov 2025

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

- 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.

Aug 2025 - Sep 2025

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

- 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.

Jul 2025 - Aug 2025

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

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.

May 2025 - Jun 2025

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