

Tawheed Sarker Aakash

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EDUCATION

Simon Fraser University

Bachelor of Applied Sciences in Software Systems

Burnaby, BC

Aug. 2021 – Dec. 2025

EXPERIENCE

Freelance Full Stack Developer

Jan. 2025 – Present

Self-Employed

Remote

- Delivered a production ready website for **Honey Cake Café** using **React**, **Node.js/Express**, and **PostgreSQL** with dynamic menu, online ordering, and **CI/CD** deployment via **Docker**; managed an end-to-end system following the **Agile SDLC** from requirements through deployment.
- Currently developing a **B2B** platform for **Rose Intimates Ltd.** with a **3D** product catalog, client account portal, **MOQ**-based ordering, bulk pricing tiers, and inventory management via **RESTful API**.

Software Developer

Jan. – Aug. 2024

SFU Robot Soccer Club

Burnaby, BC

- Developed and maintained robot path planning modules in hexagonal map spaces in **C++** using **A* algorithm** for the club's codebase.
- Wrote **Python** automation scripts to streamline build, test, and deployment workflows, resolving software change requests.
- Managed feature branches, code reviews, and merge requests using **Git** and GitLab in a team of 10+ developers following **Waterfall SDLC** model.

PROJECTS

Multi-Agent Path Finding (MAPF) Solver | *C++, Python, React, Vue, D3.js*

Sept. 2024 – Apr. 2025

- Built a two-layer MAPF solver for academic benchmarking at **SFU PDCLab**: high-level conflict resolution via **CBS** and **ICTS**, and low-level pathfinding via **A*** and **Dijkstra's**; core engine in **C++** exposed through a **Python (FastAPI)** bridge; benchmarked across up to **20 agents** evaluating solution optimality and runtime between strategies.
- Built an interactive frontend using **React**, **Vue**, and **D3.js**, rendering agent paths as an animated **force-directed network flow graph** with timestep playback to illustrate conflict detection and resolution.

Systems Programming Portfolio | *C, POSIX Threads, UDP Sockets, Semaphores, IPC*

Jan. – Apr. 2022

- OS Process Scheduler**: Implemented a multi-level scheduler in **C** simulating **process lifecycle management**, **IPC messaging**, and **semaphore synchronization** via static memory allocation; designed PCB, SRInfo, and SEM datatypes with priority-tiered ready queues, context switching, and process forking.
- S-talk P2P Chat**: Built a peer-to-peer chat app using **UDP sockets** and **4 POSIX threads** concurrently handling keyboard input, screen output, and network send/receive, enabling real-time communication across machines.

wade07labs — Personal Homelab | *Linux, Docker, WireGuard, Bash, Networking*

2023 – Present

- Deployed and self-host a multi-service homelab on a **dedicated device** running **Linux** using **Docker Compose**, running a media server stack (Jellyfin, Sonarr, Radarr, Prowlarr), **NAS** for centralized storage, and container management via **Portainer**.
- Configured **WireGuard** VPN for secure remote access, custom networkwide ad-blocking module, **DNS**, port forwarding, and network segmentation; managed service orchestration, automated restarts, and environment-separated container configs across the stack.

TECHNICAL SKILLS

Languages: C/C++, Python, Java, JavaScript, SQL, Bash, HTML/CSS, Swift, MATLAB

Frameworks: STL, Boost, CMake, pybind11, Google Test Suite, React, Node.js, Express, FastAPI, Vue, D3.js

Developer Tools: Git, Docker, GitHub, GCP, AWS, PostgreSQL, MongoDB, Redux, REST API, CI/CD, Redis

Practices: Object-Oriented Design, Agile/Waterfall Development, SDLC, Data Structures & Algorithms, Multithreading, Version Control, TDD, Technical Documentation, Coding Standards, Usability

Soft Skills: Collaboration, Team Work, Communication, Accountability, Prioritizing, Attention to Detail, Problem Solving, Leadership