

Bhaskar Das

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SUMMARY

Software engineering student with foundations in **systems programming**, **Operating Systems concepts**, and networked application development. Skilled in **C**, **C++**, **Python**, **Java**, **Linux**, and **scripting**, with hands-on experience in building, testing, and integrating systems, applications, algorithms and data analytics pipelines.

EDUCATION

Concordia University

Montreal, QC

Bachelor of Engineering in Software Engineering (Full-time Student)

Expected Graduation: 05/2027

Relevant Coursework: Software Architecture and Design, Operating Systems, Database Systems, Computer Networks

EXPERIENCE

Reliance Jio Ltd.

05/2024 – 07/2024

Software Engineering Intern (Signal Processing/AI)

Remote

- Engineered a **custom audio diarization algorithm** in **Python** using **MFCC extraction** and **sliding window buffers** accelerated with **CUDA**
- Segment and identify speakers, improving real-time reliability for large-scale conferencing applications
- Integrated **OpenAI Whisper** for segment-wise captioning and transcription, enabling **98%** accuracy and fault-tolerant speech-to-text processing
- Voice detection module using **WebRTC VAD** with duration/amplitude-based filtering

PROJECTS

ShareCycle | *Java/Spring Boot, MySQL, Docker, JUnit, REST APIs*

github.com/das-bhaskar/ShareCycle

- Built a scalable bike-sharing backend supporting rentals, real-time availability, and station rebalancing using **Java/Spring Boot**
- Implemented **REST APIs** with secure authentication & encryption using layered architecture and design patterns
- Designed **MySQL** persistence with **Docker** Compose for reproducible environments and data integrity
- Wrote **unit** and **integration tests (JUnit)** for service and controller layers for frontend compatibility

Mudic – AI-Powered Wellness App | *SwiftUI, Flask, Google Gemini API, Ngrok*

github.com/das-bhaskar/Mudic

- Developed **iOS frontend in SwiftUI** with dynamic pastel theming and **mood-based real-time UI updates**
- Built **Flask backend** with **REST API** & lightweight data persistence; tunneled via Ngrok for mobile integration
- Integrated **Google Gemini API** for NLP-driven mood analysis, personalized messages, haikus, and interactive vent/joke responses

Technical Experiments | *C, C++, TCP/IP, libnds, Bash*

- Developed **client-server applications in C, C++**, implementing **TCP/IP** sockets and protocol handling for reliable data transfer
- Experimented with **Nintendo DS development**, capturing input and sending data to a local **API** for learning
- Created **Nintendo DS setup tutorial** for macOS with libnds. youtube.com/watch?v=raMW6wLBUBc
- Developed a **Linux command-line wrapper** for NordVPN commands

TECHNICAL SKILLS

Programming Languages: Java, C, C++, Python, Swift, HTML/CSS, JavaScript

Frameworks and Libraries: Spring, Spring Boot, Flask, React, Typescript, Node.js, Streamlit, Android (Java), iOS (Swift)

Database & Cloud: PostgreSQL, MySQL, NoSQL, Supabase, Firebase, Cloud Infrastructure

Development & DevOps: Git, Docker, Bash, Vim, GCC, CI/CD, Linux (Debian/Ubuntu), GitHub Projects (Kanban)

Core Competencies: Agile Software Development, Object-Oriented Design, SDLC, Design Patterns, UML, Data Structures and Algorithms, Debugging