

Bhaskar Das

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EDUCATION

Concordia University

Bachelor of Engineering in Software Engineering

Montreal, QC

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)

Mumbai, MH

- Engineered a **custom audio diarization pipeline** in **Python** using MFCCs, sliding windows, and **CUDA**-accelerated processing.
- Built speaker recognition using **NVIDIA NeMo**, **PyTorch**, and **KMeans clustering (scikit-learn)** for robust multi-speaker segmentation.
- Integrated **OpenAI Whisper** for segment-wise transcription, achieving **98% accuracy** with fault-tolerant speech-to-text.
- Developed an interactive **Streamlit** app supporting WAV/MP4 uploads, audio extraction via **moviepy**, and analysis using **NumPy/Pandas**.

AetherShell - Open-Source Nintendo DSi & iOS AR Bridge

Jan 2025 – Present

Founder and Lead Maintainer | github.com/das-bhaskar/aethershell

Remote

- Architected a **distributed system** bridging Nintendo DSi hardware with iOS ARKit to sequence and project multi-frame sketches as **3D Augmented Reality (AR) animations** in real-time.
- Optimized throughput by **5,000%** via **Vectorized Path Streaming** in **C**, replacing VRAM scanning with an event-driven coordinate model.
- Developed a **Spring Boot translation layer** to ingest raw **UDP coordinate streams** and expose them via a **REST API** for secure HTTPS mobile sessions.
- Engineered a **non-blocking I/O signaling mechanism** to synchronize data flow between the Java Hub and Python engine, preventing race conditions.
- Published a **production iOS/iPadOS app** to the [App Store](#) featuring **Raycasted Interaction** and **Spatial Fallback** logic for AR stability.
- Maintaining as a modular open-source project; authored **Bash automation** and a **QR Handshake** to simplify complex **NAT traversals**.

PROJECTS

ShareCycle | Java, Spring Boot, MySQL, Docker, JUnit, RESTful APIs

github.com/das-bhaskar/ShareCycle

- Designed and developed a **microservices backend** for a bike-sharing platform using **Java and Spring Boot**.
- Implemented **REST API** supporting rentals, availability, and station rebalancing using **design patterns**.
- Applied **object-oriented design principles**, layered architecture, and design patterns for maintainable code.
- Utilized **Docker** to **containerize** services and enable reproducible deployments across environments.
- Conducted **Unit Testing & Integration Testing (JUnit)** and followed CI-friendly development practices.

TECHNICAL SKILLS

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

Frameworks and Libraries: 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), UNIX, GitHub Projects

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