

Bhaskar Das

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EDUCATION

Concordia University

Bachelor of Engineering in Software Engineering

Montréal, QC

Ongoing

EXPERIENCE

Software Engineering Intern (Signal Processing/AI)

May. 2024 – Jul. 2024

Reliance Jio Ltd.

Mumbai, MH

- Worked on Custom Audio Diarization Algorithm: Engineered a diarization algorithm leveraging Mel-Frequency Cepstral Coefficients (MFCC) extraction and sliding window buffer to accurately segment and identify speakers, achieving an accuracy improvement of 15% over traditional methods.
- Implemented OpenAI Whisper for segment-wise captioning and transcribing segmented audio in real-time, achieving 98% transcription accuracy.
- Developed a human voice detection algorithm using WebRTC VAD, incorporating duration and amplitude-based filtering criteria to reduce false positives by 40%, improving speech detection accuracy by 35%.

Joint General Secretary, Research and Development

Jul. 2023 – Sep. 2024

MUN Society MPSTME

Mumbai, MH

- Led R&D department—authored study guides, trained participants, and drove initiatives for *MUMBAI MUN*, hosting 300+ participants.
- Selected as a delegate for the **Harvard WorldMUN, Taiwan** representing India.

Speaker Contributor

Jun. 2019 – Jul. 2020

TED-Ed Club

Mumbai, MH

- Delivered talks and conducted research on diverse, thought-provoking topics for the TED-Ed community.

Blog: The IKR Moment

2019 – 2020

Managed and Contributed

Personal Blog

- Wrote on technology, culture, and social commentary, encouraging critical thinking through concise, engaging articles.

PROJECTS

CLI TCP Chat Application (C, Sockets) | *Systems Programming*

Aug. 2025

- Built a client-server chat program in C using TCP sockets, enabling bidirectional message exchange between two networked hosts over IP.
- Implemented core networking primitives: `socket()`, `bind()`, `listen()`, `accept()`, `send()`, and `recv()`.
- Designed the server to handle persistent communication with a connected client using blocking I/O loops.
- Gained hands-on experience with low-level networking concepts (ports, endianness, system calls, and message buffers).

Mudic – AI-Powered Wellness App | *iOS + Flask + Google Gemini*

Apr. 2025

- Developed an **iOS frontend in SwiftUI** with dynamic UI theming and real-time state updates.
- Built a **Flask backend** with REST APIs, tunneled securely via Ngrok for mobile integration.
- Integrated **Google Gemini API** for NLP-driven mood analysis and context-aware response generation.
- Implemented modular endpoints for classification, text generation, and interactive features (venting, haikus).
- Delivered end-to-end system in 36 hours at **MLH AI Hackfest**, demonstrating robust cross-stack design.

Cabbage Mobile App

Jun. 2024

- Developed 'Cabbage,' a cross-platform mobile app for collaborative research using Firebase.
- Implemented features such as creating, sharing, and viewing posts. Overcame UI design challenges and optimized data retrieval for both platforms.
- Ensured a consistent user experience on iOS through Swift programming language and Firebase integration. Implemented user login, logout, and post-sharing functionalities, addressing UI design challenges specific to iOS.

TECHNICAL SKILLS

Languages: C, Python, Java, C++, Swift, HTML/CSS, Javascript

Systems & Tools: Linux (Debian/Ubuntu), Bash, Git, Vim, GCC, GDB

Concepts: Data Structures and Algorithms, Operating Systems, Networking (TCP/IP, sockets), Concurrency (Blocking I/O loops)

Web & Mobile Development: Android (Java), iOS (Swift), Flask, Streamlit, PostgreSQL, Supabase

Other Tools: DaVinci Resolve, Canva, LaTeX