Bhaskar Das

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SUMMARY

Software engineering student with experience building **scalable backend services** and multi-component processing systems. Strong foundation in **data structures, algorithms, object-oriented design, and the software development lifecycle (SDLC)**. Proficient in **Java, Python, C, C++, Linux**, with hands-on experience developing **RESTful APIs**, backend pipelines, debugging complex systems, and owning features from **design through deployment**.

EDUCATION

Concordia University <div align="right">Montreal, QC</div>
Bachelor of Engineering in Software Engineering (Full-time Student) <div align="right">*Expected Graduation: 05/2027*</div>
Relevant Coursework: Software Architecture and Design, Operating Systems, Database Systems, Computer Networks

EXPERIENCE

Reliance Jio Ltd. <div align="right">05/2024 – 07/2024</div>
Software Engineering Intern (Signal Processing/ AI) <div align="right">*Mumbai, MH*</div>

- 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**

PROJECTS

ShareCycle | *Java/Spring Boot, MySQL, Docker, JUnit, REST APIs* <div align="right">github.com/das-bhaskar/ShareCycle</div>

- 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
- Used **Docker** to **containerize** services and enable reproducible deployments
- **Unit Testing & Integration Testing (JUnit)** and followed CI - friendly development practices

Mudic – AI-Powered Wellness App | *SwiftUI, Flask, Google Gemini API, Ngrok* <div align="right">github.com/das-bhaskar/Mudic</div>

- 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 from **Documentations**. 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 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