Riyaj Chaulagain

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EDUCATION

Southeastern Louisiana University, Hammond, LA   **Graduation: Dec 2027**
*Bachelor of Science in **Computer Science** with Minor in **Mathematics***   **GPA: 3.96/4.00**
- **Awards:** President's List (Multiple Semesters), Priority Honors Scholarship, Runner-Up (SLU Integration Bee Competition), Award for Outstanding Leadership, Student Organization Excellence Award
- **Relevant Coursework:** Introduction to Algorithms, Data Structures (Java), Software Engineering (ASP.NET), Computer Architecture, Networking and CyberSecurity, Operating Systems (C), Artificial Intelligence (Python)
- **Involvements:** Vice President of Nepalese Student Association at Southeastern (NSAS), Treasurer of Google Developer Group – Southeastern (GDG), Member of Association for Computing Machinery (ACM)

WORK EXPERIENCE

Teaching Assistant & Mathematics Tutor, *Southeastern Louisiana University*   **August 2024 - Present**
- Mentored 30+ students in **CS** (**Java, Python, OOP, Data Structures & Algorithms**) and **Math** (Calculus, Statistics), leading to an average grade improvement of 20%.
- Designed 50+ **curriculum-aligned** resources (problem sets, study guides, practice tests) to enhance **student understanding** and boost **classroom engagement**.

Undergraduate Research Assistant, *Southeastern Louisiana University*   **November 2024 - August 2025**
- Engineered an **LLM benchmarking** system using **React and Firebase** (Authentication, Realtime Database, Storage, and Hosting) to evaluate **OpenAI, Gemini, and Claude APIs**, cutting workflow time by **5+ hours per week**.
- Architected a secure **Angular-based digital e-library** with session-based **access control** and **real-time database architecture**, improving **reliability** and **user engagement**.

PROJECT EXPERIENCE

AI Smart Stick | *Assistive Technology for Visually Impaired (Raspberry Pi 4, YOLOv5)*   **January 2026 - Present**
- Developing an **AI-powered** smart stick using Raspberry Pi 4, camera module, ultrasonic sensor, and vibration motor, using **YOLOv5** model for **real-time object detection**, **distance sensing**, and **audio/haptic alerts** to assist **visually impaired** users.
- Building a **responsive monitoring web app** with **ExpressJS** and a **Python** backend to enable **GPS tracking** and **image-based alerts**, allowing caregivers to monitor **user safety remotely**.

Cargo Games | *Distributed Real-Time Platform (Rust, React, WebSockets)*   **August 2025 - December 2025**
- Launched a **real-time multiplayer** gaming platform using **Rust** (backend) and **React** (frontend) with **WebSocket communication**, **event-driven architecture**, and **automated CI/CD pipelines** for reliable deployments.
- Designed modular, scalable game logic leveraging **async concurrency**, **fault-tolerant matchmaking**, and **structured documentation workflows** to support collaborative, production-ready development.

Agri-Tech | *IoT, Cloud & AI Integration*   **July 2025 - August 2025**
- Delivered a **cross-platform mobile app** using **React Native** with a **Flask backend** to monitor soil moisture and crop conditions, process **real-time sensor data**, and provide **AI-driven** agricultural advice using **Gemma 2 9B LLM**.
- Implemented **RESTful API** endpoints for **data storage, retrieval, and AI chat**, implemented **logging** and **error handling**, and deployed containerized services with **Docker** for a scalable backend.

ACTIV-ATE | *Full-Stack Web App (C# .NET, React, MySQL)*   **January 2025 - May 2025**
- Built a **fitness tracking web app** with **React (TypeScript)** frontend, **ASP.NET Core** backend, and **MySQL**, applying **MVC design patterns** for scalable architecture.
- Established secure **RESTful APIs** with authentication, **CRUD** operations, and interactive dashboards to track calories, fitness logs, and performance analytics.

AI Mock Interviewer | *LLM Fine-Tuning & RAG System*   **May 2025 - June 2025**
- Spearheaded an **AI interview prep app** by fine-tuning **Microsoft Phi-2** with **PyTorch**, using **Scikit-learn**, **TensorFlow**, and **vector embeddings** for RAG-based context-aware PDF retrieval.

TECHNICAL SKILLS

- **Programming Languages**: C#, Python, SQL, JavaScript, TypeScript, Java
- **AI/ML & Data Tools**: TensorFlow, PyTorch, Scikit-learn, NumPy, Pandas, Vertex AI, RAG, Vector Embeddings
- **Cloud & Databases**: Google Cloud Platform, Microsoft Azure, AWS, MySQL, MongoDB, PostgreSQL, Firebase
- **Frameworks/Tools**: ReactJS, Flask, FASTAPI, Angular, .NET, Git/GitHub, REST API, Docker, React Native, Node.js, ExpressJS