

Nhoojah Maharjan

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Portfolio | GitHub | LinkedIn

EDUCATION

University of Southern Mississippi

May 2028

Bachelor of Science in Computer Science, Minor in Economics and Data Analysis | **GPA: 4.0**

Hattiesburg, MS

Honors: President's List (All Semesters), Academic Excellence Scholarship

Relevant Coursework: Data Structures & Algorithms, Probability & Statistics

TECHNICAL SKILLS

Programming Languages: Python, C/C++, C, JavaScript, TypeScript, Java, SQL, R

Libraries/Frameworks: React.js, Next.js, Node.js, TensorFlow, PyTorch, Scikit-Learn, Keras, FastAPI, Numpy, Pandas, Matplotlib, GraphQL

Tools/Platforms: Git, VS Code, Colab, Firebase, AWS, Docker, Postman, Expo

Databases: PostgreSQL, MongoDB, MySQL, SQLite

EXPERIENCE

Research Assistant

Apr 2025 – Present

University of Southern Mississippi

Hattiesburg, MS

- Researched thin object segmentation, focusing on challenging structures such as **wires** and **cracks**.
- Tested across multiple datasets and models, achieving state-of-the-art **F1 scores** and setting strong benchmarks.
- Integrated **Segment Anything Model (SAM)** with traditional segmentation architectures to improve model precision and recall by **up to 12%**.
- Designed reproducible evaluation workflows, ensuring scalability and reliability for future segmentation studies.

Backend Developer

Jan 2023 – Mar 2024

Dabuli

Seattle, WA

- Developed scalable backend (Node.js/Express) handling **15k+ requests/min** with microservices architecture.
- Optimized REST APIs (MongoDB, PostgreSQL), improving query performance by **40%** with indexing/caching.
- Led incident resolution, reducing downtime from hours to just **10 min** via distributed tracing & automated recovery.

PROJECTS

Satark – AI-Powered Focus & Drowsiness Detection

PyTorch, TensorRT, FastAPI, Docker, AWS, Streamlit

- Developed an AI system using a fine-tuned **YOLOv8** model trained on **12k+ eye-blink and yawn images**, achieving **93% accuracy**.
- Optimized inference with **TensorRT**, reducing latency from **200 ms** → **60 ms** for real-time webcam monitoring.
- Integrated **AI quote generation** via OpenAI and Hugging Face APIs to deliver adaptive motivational messages or TTS audio through a Chrome extension, improving user focus by **40%** in pilot testing.
- Deployed via **AWS SageMaker + FastAPI + Docker**, scaling to **1k+ concurrent users** with a **Streamlit dashboard** for live analytics.

Learnova – AI Study Companion

React Native, Expo, Firebase, Gemini API

- Architected an AI-driven study ecosystem featuring adaptive quizzes, flashcards, and bespoke learning pathways powered by Gemini's NLP models, adopted by **200+ students** from 2 different colleges.
- Engineered a spaced-repetition flashcard engine that dynamically adjusts intervals based on recall metrics, boosting long-term retention by **35%**.
- Implemented authentication, course management, and progress tracking dashboards, improving course completion rates by **30%**.
- Enabled course exploration and personalized recommendations, increasing user retention by **25%**.

HiveFind – Collaboration Hub

React Native, Tailwind, MongoDB, Firebase, Express.js, OpenAI API

- Built AI-powered hub that decomposes projects into granular tasks with OpenAI, improving team efficiency by **25%**.
- Created skills-matching algorithm pairing **50+ users** based on expertise vectors in MongoDB.
- Integrated chat & milestone tracking with real-time visualization, adopted in **5 active project teams**.