Sonal Gehlot

sgehlot@usc.edu | +1 (206) 746-9460 | linkedin.com/in/sonalgehlot/ | sonalgehlot10.github.io

EDUCATION

University of Southern California Jan 2025 – Dec 2026

Master of Science in Computer Science (GPA: 3.56/4.0) *Los Angeles, CA*

Coursework: Analysis of Algorithms, Database Systems, Machine Learning for Data Science, Applied NLP

University of Mumbai June 2018 – May 2022

Bachelor of Engineering in Information Technology (CGPA: 8.85/10) *Mumbai, India*

TECHNICAL SKILLS

Skills: Python, C++, JavaScript, React.js, Node.js, Express, Django, TensorFlow, PyTorch, scikit-learn, Git, Firebase, OpenAI API

PROJECTS & PUBLICATION

RLVR: Reducing Hallucinations in LLMs | *Python, PyTorch, Hugging Face TRL, RLHF/RLVR, Qwen-4B*   2025
- Developed a Reinforcement Learning with Verifiable Rewards (RLVR) framework to reduce LLM hallucinations by rewarding abstention ("I don't know") behavior using GRPO and regex-based reward parsing.
- Fine-tuned Granite-3.3 and Qwen-4B on MedMCQA / PolitiFact, achieving about 21% selective abstention while maintaining competitive accuracy.

Gamified learning platform | *JavaScript, Node.js, Express.js, OpenAI API, MongoDB, Firebase, cPanel*   2024
- Architected scalable learning platform with interactive quizzes, real-time progress tracking, competitive leaderboards, and OpenAI API integration, supporting 1,000+ concurrent users with gamified engagement features
- Developed a full-stack solution managing authentication, score synchronization, and animated feedback with optimized deployment and performance for improved user retention.

Breast Cancer Detection Using ML | *Naïve Bayes, KNN, scikit-learn, NumPy, Pandas, PHP, MySQL*   2022
- Designed a predictive healthcare web app that classifies breast cancer as benign or malignant using Naïve Bayes and KNN, achieving accurate results on the WBCD dataset via scikit-learn.
- Engineered a full-stack architecture with PHP, MySQL, and XAMPP, enabling real-time inference from Python-based ML models through custom backend integration. **Published in IRJET:** V9I3296.pdf (Mar 2022)

EXPERIENCE

SIMULABS Aug 2024 – Dec 2024

Jr Full Stack Dev Consultant
- Designed and implemented two full-stack SaaS web applications using the MERN stack, integrating Firebase Auth/Auth0 for secure user management.
- Built scalable REST APIs and automated CI/CD pipelines, reducing deployment time by 40%.
- Integrated OpenAI API to enable generative-AI features that improved user engagement by 35%.

Sparks Foundation Feb 2023 – May 2023

Web Developer / Designer
- Rebuilt backend modules and optimized payment gateway UX, reducing load times by 20%.
- Implemented modular APIs and data validation logic improving maintainability.

Yoganta, TakeOff, and Other Freelance Clients Aug 2021 – Feb 2023

Video Editor
- Led 30+ video and design projects, improving brand engagement by 25% through creative automation and cross-team collaboration.

Verzeo Mar 2021 – Apr 2021

Software Engineer Intern
- Developed full-stack ML web app with ReactJS and MongoDB for predictive analytics.
- Refactored backend to reduce latency by 30% via caching and asynchronous processing.

Sahu Technologies May 2020 – Nov 2020

Frontend Web Developer Intern
- Built responsive UIs with HTML, CSS, and JavaScript, cutting load time by 25% through asset optimization and refactoring modules with backend engineers to reduce technical debt.