# Sonal Gehlot

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## EDUCATION

**University of Southern California**      Jan 2025 – Dec 2026
*Master of Science in Computer Science (GPA: 3.74/4.0)*      *Los Angeles, CA*

Coursework: Distributed Systems, Analysis of Algorithms, Database Systems, Machine Learning for Data Science and 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, Java, C, C++, JavaScript, React.js, Node.js, Express, Django, MongoDB, MySQL, TensorFlow, PyTorch, scikit-learn, AWS, Docker, Git, Firebase, CI/CD, Auth0, OpenAI API, REST APIs, OOP, Cloud Deployment

## PROJECTS & PUBLICATION

**RLVR: Reducing Hallucinations in LLMs** | *Python, PyTorch, HF TRL, RLHF/RLVR, Gemma-3B, Qwen-4B*
- Built and published a scalable RL-based training pipeline to reduce LLM hallucinations by enforcing verifiable reward signals, eliminating reliance on human preference labeling.
- Trained and evaluated 3B–4B parameter models (Gemma, Granite, Qwen) across large QA datasets, achieving about 21% controlled abstention while preserving accuracy and system reliability. **Published in:** arXiv (Jan 2026)

**Breast Cancer Detection Using ML** | *Naïve Bayes, KNN, scikit-learn, NumPy, Pandas, PHP, MySQL, XAMPP*
- 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)

**Gamified learning platform** | *JavaScript, Node.js, Express.js, OpenAI API, MongoDB, Firebase, cPanel*
- 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.

## 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**      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.