Samarth Bhole

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EDUCATION

Master of Science in Computer Science   **Jan 2024 - Dec 2025**
University of North Carolina - Charlotte | **GPA : 3.88/4.0**
Relevant Coursework: Algorithm & Data Structures, Mobile App Development(Android, Java), Computer Networks, Database Systems, Artificial Intelligence, Visual Analytics, Network-Based App Development, Big Data Analytics for Comp Advancement

Bachelor's in Computer Science   **Jun 2019 - Jun 2023**
Shri Vaishnav Vidyapeeth Vishwavidyalaya | **CGPA : 8.07/10.0**

SKILLS

Programming Languages: Python, Java, C, C++, PHP, Javascript, Typescript, HTML5, CSS, Bash/Shell scripting
Frameworks: Django, (Django REST Framework)React.js, Next.js, Express.js, FastAPI, Flask, Frappe, Android (Java)
Data Technologies: SQL, MySQL, PostgreSQL, NoSQL, Apache Kafka, Relational & Non-Relational Databases, Cloud Databases
Softwares and Other tools: Visual Studio Code, Git, Postman, Ollama, Linux, Windows, MacOS, Docker, AWS Services
ML Technologies: Transformers, Neural Networks, Regression & Classification, Langchain, RAG, LLMs, PyTorch

PROFESSIONAL EXPERIENCE

AI Intern, LifesizeAgent.ai - McKinney, TX   **Jun 2023 - Oct 2023**
- Build Voice AI solutions using Nvidia Riva, Eleven Labs, and CoqAi TTS services to deliver dynamic voices for AI agents.
- Architected multi-agent systems using CrewAI framework with LLM API integration and Ollama for local model deployment.
- Optimized agent performance with NVIDIA NeMo and NIM microservices using containerized serving for 45% faster inference.

Research Assistant, University of North Carolina - Charlotte, NC   **Aug 2024 - Present**
- Developed comprehensive taxonomy and evaluation framework for multimodal AI architectures, analyzing 300+ transformer and diffusion models across six classification dimensions and using Python scripts, arXiv API, and HuggingFace to collect data
- Mentor 25+ students in advanced React.js architecture and Redux state management, boost project completion rates by 30%.
- Lead technical workshops on MERN stack development, focusing on MongoDB schema design and RESTful API implementation.
- Guide implementation of CI/CD pipelines with GitHub Actions, improving deployment efficiency for student projects.

Frappe Full-Stack Dev, Ideata Analytics Pvt. Ltd. - Indore, India   **Jun 2023 - Oct 2023**
- Architected a scalable institute management system using Frappe, reduce data processing time by 35% and serve 1,000+ users.
- Engineered responsive JS frontend with Python REST APIs for livestock registration, increasing data capture accuracy by 40%.
- Troubleshot and resolved 50+ ERPNext issues, implementing efficient DB queries improving system response time by 30%.
- Optimized performance across ERP modules by refactoring 2,000+ lines of code, reduce server load by 25% during peak usage.

Django & ML Intern, Techlene Software Solutions. - Indore, India   **Jan 2023 - Apr 2023**
- Engineered an advanced skin disease classification pipeline using CNNs (Inception V3) and Transfer Learning with VGG19
- Deployed production-ready ML pipeline on AWS EC2 instances by Django REST Framework, reducing inference time by 40% .

Full-Stack Developer, Inflatech Solutions - Indore, India   **Jan 2021 - Apr 2023**
- Constructed a restaurant POS system using Django backend and React.js frontend, reducing order processing time by 35%.
- Launched an e-commerce platform for automobile parts with Django, REST APIs, and PostgreSQL, with 15K+ monthly users.
- Formulated a tax filing ERP system with automated validation workflows using PHP, decreasing filing errors by 40%.
- Orchestrated a real-time inventory system with WebSockets and Redux, improving stock accuracy by 28% across 3 centers.
- Spearheaded 7+ client projects with custom full-stack solutions, boosting efficiency by 32% through API-driven automation.

ACHIEVEMENTS & AWARDS

Winner of the Best First-Time Hack at ShellHacks 2024 by INIT at FIU, Miami, Florida
- Implemented a patient analytics platform using PyPDF2, extracting 15+ health markers with 92% accuracy from medical docs.
- Architected a RAG-based pipeline with Qwen 2.5 LLM and Faiss vector DB, reduce analysis time by 60% vs traditional methods.

Winner of the Hackathon at TECHNEX 2023 organized by Turing Club, at NMIMS, Indore, India
- Led a team building a CNN pattern recognition system with 90% accuracy using TensorFlow and OpenCV for classification.
- Integrated computer vision models with DRF and React.js, increasing product discovery by 45% in an e-commerce prototype.

RESEARCH WORK

LSTM-Based Autonomous Cryogen Control Inter-University Accelerator Centre, Delhi
- Implemented LSTM-based neural networks for autonomous cryogen level control in Superconducting Linear Accelerators.
- Integrating Tkinter for visualization and control. Achieved $\pm 1\%$ error margin over extended periods and deployed at IUAC.

Emotion Detection through EEG Brainwaves Using Deep Learning and RNN Models
- Published and presented at the Conference on Sustainable Computing for Multidisciplinary Realities 2022.
- Achieved 97.34% emotion recognition accuracy using an RNN model with GRU by optimizing hyperparameters (epochs,etc).