Vaibhav Hawaldar

919-520-8331 | vhawald@ncsu.edu | https://linkedin.com/in/vaibhavhawaldar | https://github.com/Vaibhav260 | Raleigh, NC

EDUCATION

North Carolina State University, Raleigh, NC, USA   Aug 2024 – May 2026
Master of Science in Computer Science   **GPA: 4.0/4.0**
Coursework: Machine Learning, Neural Networks, Parallel Algorithms, Software Engineering, Object-Oriented Design and Development, Data Analysis and Algorithms, IoT Analytics, Computer Networks, Biometrics

NMIMS University, Mukesh Patel School of Technology Management, Mumbai, India   Aug 2020 – May 2024
Bachelor of Technology in Computer Engineering   **GPA: 3.76/4.0**
Coursework: Artificial Intelligence, Operating Systems, Data Structures and Algorithms, Database Management Systems

WORK EXPERIENCE

Software Engineering Intern, Ribbon Communications, Raleigh, USA   July 2025 – Present
- Contributed to real-time communication software, enhancing SIP call processing, WebRTC, and TCP/IP networking
- Worked extensively in Linux/UNIX environments, debugging production issues using logs, traces and command-line tools
- Integrated C/C++ networking libraries with gRPC and RESTful APIs to deliver high-performance distributed systems
- Leveraged operating system concepts such as process management, sockets, synchronization to improve system reliability
- Wrote shell scripts (bash/zsh) to automate builds, testing, and environment setup for development and debugging
- Supported build and integration workflows using Makefiles and Git-based pipelines to manage feature integration and bug fixes.

Research Assistant, NC State University   May 2025 – July 2025
- Designed and analyzed multi-institutional datasets for early student success prediction using statistical techniques
- Evaluated feature–performance relationships, identifying variability of predictive features across datasets
- Co-authored *"A Study of Early Student Success Prediction using Programming Log Data"* (under review at SIGCSE).

Machine Learning Intern, **FutureTayari,** Mumbai, India   Dec 2023 – Jun 2024
- Enhanced user engagement by 50% with gamified card quiz using LLM for automated content creation
- Developed React-based front-end with Chakra UI and Framer Motion on a Firebase NoSQL backend
- Automated deployments via a CI/CD pipeline with GitHub and Vercel, improving release speed and reliability

PROJECTS

HealthSync | Full Stack Development (React, Python, Firebase, Nextjs, HTML, CSS, LLM, AI)
- Developed a Next.js-based health portal an admin dashboard with ChartJs libraries, and a responsive UI using Tailwind
- Integrated OpenAI & LLM for automated medical report analysis and used NoSQL Firebase for backend
- Implemented CI/CD workflows via GitHub Actions and Vercel, reducing report processing time by 30%

PySpark ETL Pipeline | Python, Big Data, AWS, and Cloud Computing
- Implemented an ETL pipeline using PySpark to extract data from MS SQL Server and load it into an AWS S3
- Containerized the pipeline using Docker and automated infrastructure provisioning and data workflows with Terraform

Plant Disease Detection using YOLO | Machine Learning, Image Processing, Computer Vision (Python, Yolo, Flask)
- Established a plant disease detection system using SVM, Random Forest, and YOLOv5 and flask for model deployment
- Transitioned to YOLOv8 to reduce training time by 30% using custom annotated dataset to enhance accuracy by 60%
- Co-authored a research paper currently under peer review: "**Revolutionizing Plant Disease Detection in Agriculture**"

Expertiza peer-review platform | Web Development (Ruby)
- Refactored controller logic for Expertiza, a Ruby on Rails platform used by NC State University
- Applied SOLID principles to simplify code and increase test coverage with RSpec and FactoryBot, ensuring scalablity.

TECHNICAL SKILLS

Programming Languages: Swift, Python, HTML, CSS, C, C++, Java, TypeScript, PHP, SQL
Frameworks/Libraries: NumPy, Pandas, Scikit-learn, TensorFlow, PyTorch, OpenCV, React.js, Next.js, Flask, Node.js
Databases & Cloud: MySQL, PostgreSQL, MongoDB, AWS (incl. Boto3), Azure, Docker, Kubernetes, Spark
Tools: Macos, Xcode, Distributed Systems, Tensorflow, PyTorch, Jupyter , Git, CI/CD, Linux/UNIX, Flask
Skills: Web Development, Object Oriented Programming, Deep Learning, Machine Learning, NLP, Computer Vision, grep
Achievements: Finalist – Amazon ML Summer School (Top 0.1%), HackerRank – 5-star problem solver