Samarth Dhol

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Professional Summary

Aspiring AI Research Engineer with a strong foundation in machine learning, computer vision, and full-stack development. Proven ability to lead projects from conception to deployment, with publications in AI and a passion for building innovative solutions in healthcare and technology.

Experience

Programming Trainee | InternPe *Feb 2023 – March 2023*

- Developed a strong foundation in C programming, mastering pointers, memory management, and data structures.
- Achieved a top score in all graded assessments, demonstrating exceptional problem-solving and logical reasoning skills.

Cybersecurity Trainee | Internship Studio *Dec 2023 – January 2024*

- Applied penetration testing methodologies on Kali Linux, utilizing tools like Burp Suite to identify and analyze security weaknesses.
- Executed a capstone penetration test; discovered and responsibly exploited 5+ critical vulnerabilities (e.g., SQLi, XSS) in a target web application.
- Automated vulnerability assessment using Netsparker and delivered a comprehensive risk report with prioritized remediation strategies.

Publications

Research Co-Author | Yoga Pose Detection *Feb 2025 – May 2025*

- Co-authored and published a conference paper on an AI-driven yoga pose detection system.
- Engineered a hybrid CNN-LSTM model, boosting dataset performance to over 95% accuracy in pose classification.
- Designed pipeline diagrams and model architecture, ensuring methodological clarity and technical rigor.

Research First Author | Grapevine Disease Detection *July 2025 – October 2025*

- Curated a domain-specific dataset with precise annotations to ensure reliable model training and evaluation.
- Designed and developed a novel deep learning architecture that achieved 99%+ accuracy, surpassing state-of-the-art benchmarks for automated plant disease diagnosis.

Education

Bachelor of Technology in Computer Science *September 2022 – Present*
CSPIT - CHARUSAT

- CGPA: 9.49

Projects

InterVista: AI-Powered Interview Automation System
Python, NLP, Power BI, Django

- Designed a full-stack web platform to automate candidate evaluation, aiming to reduce manual screening time by an estimated 40%.
- Engineered an NLP pipeline to parse resumes and dynamically generate tailored interview questions.

- Implemented real-time, voice-based interviews with multimodal analysis (sentiment, confidence) for candidate assessment.
- Delivered a comprehensive Power BI dashboard with downloadable feedback reports, reducing hiring review time.

BC Predictor: Breast Cancer Prediction | **[Github Link]** **[Live Demo]**
Python, Django, Scikit-learn, Logistic Regression

- Trained and optimized a Logistic Regression model that achieved over 91% accuracy in classifying tumor malignancy on a benchmark medical dataset.
- Engineered a user-friendly Django web interface with secure authentication, enabling healthcare professionals to input data and receive real-time predictions
- Deployed the application for live access, providing an intuitive tool for preliminary diagnosis assistance.

PneumoAI: Pneumonia Detection via X-rays | **[Github Link]** **[Live Demo]**
Python, TensorFlow, Keras, Streamlit, CNN

- Developed a high-accuracy Convolutional Neural Network (CNN) model that achieved 99.5% accuracy on a public chest X-ray dataset for binary classification (Pneumonia/Normal).
- Integrated the model into an interactive Streamlit web application to provide real-time pneumonia detection with confidence scores and visual explanations.
- Deployed the system on Streamlit Cloud, creating a publicly accessible tool that demonstrates the application of AI in medical imaging.

CineMatch: Movie Recommendation System | **[Github Link]** **[Live Demo]**
Python, Machine Learning, Streamlit

- Developed a content-based recommendation engine trained on a curated dataset of movies and metadata.
- Built an interactive Streamlit interface to provide real-time, personalized movie suggestions based on user preferences.

Skills

Programming Languages: Python, C++, C, SQL

ML/DL Frameworks: PyTorch, TensorFlow, Scikit-learn, OpenCV

Data Science Libraries: Pandas, NumPy

Tools & Platforms: GitHub, AWS, Streamlit, Power BI, Django

Achievements/Certifications

- AWS Cloud Practitioner
- AWS AI Practitioner
- Deep Learning (NPTEL, IIT Ropar) – Gold Badge, Top 1% Performer
- AI/ML for Geodata Analysis (ISRO)
- Machine Learning with Python Case Study: Diabetes Prediction (Infosys)
- Understanding and Applying Linear Regression (Pluralsight)
- Complete CHATBOT Using Machine Learning Project (Udemy)