

EDUCATION

University at Buffalo, SUNY

Master of Science in Engineering and Applied Science

- **Coursework:** Software Development, Generative AI, Deep Learning, Robotics Algorithms, Advanced Machine Learning.

Buffalo, NY

Aug '22 - May '24

Savitribai Phule Pune University (SPPU)

Bachelor of Engineering in Computer Science

- **Coursework:** Analysis of Algorithms, Data Structures and Algorithms, Object-Oriented Programming, Database Management System, Computer Networks, Natural Language Processing, Embedded Programming.

Pune, India

Aug '17 - May '21

TECHNICAL SKILLS

Languages and Frameworks: Python, Java, J2EE, C++, C, JavaScript, HTML5, Perl, Bash, SQL, TypeScript, React.js, Spring.

Data and Tools: Git, GitHub, Docker, Jenkins, Jira, REST API, Kubernetes, MySQL, MongoDB, NoSQL, Airflow, Kafka, CI/CD.

Cloud Services: AWS (EC2, S3, Lambda, API Gateway, CodeDeploy, CloudWatch), Azure, GCP.

ML Frameworks: FastAPI, NumPy, Pandas, Matplotlib, TensorFlow, Scikit-learn, PyTorch, NLTK, CUDA, HuggingFace.

EXPERIENCE

University at Buffalo, SUNY

Software Engineer Intern

- Designed a neural network combining convolutional layers for feature extraction, and LSTMs for temporal analysis, achieving 72% accuracy in predicting the stage of Parkinson.
- Created a structured dataset from 15 diverse tests, integrating data from the **National Institute of Health, USC**.
- Developed personalized treatment plans, leveraging insights from model predictions and integrating SHAP (SHapley Additive exPlanations) for transparency in decision-making.

New York, USA

May '23 - Aug '23

University at Buffalo, SUNY

Student Researcher

- Architected a multi-label classification pipeline using stacking ensemble techniques (XGBoost, CATBoost) on the UC Irvine HCV dataset for Hepatitis Classification.
- Implemented feature engineering, hyperparameter tuning, and cross-validation, achieving **94.73%** accuracy on unseen data.
- Classified stages of Hepatitis C, approaching the **SOTA** benchmark of 96% with robust model generalization and low bias-variance tradeoff.

New York, USA

Sep '22 - Dec '22

IndiaFirst Robotics

Software Engineer Intern

- **Military UTV to detect landmines:** Worked on designing a **UTV** on NVIDIA Jetson with mine detection sensor, IMU, GPS, and LiDAR for navigation and mark location with 0.5-meter precision.
- Implemented Image segmentation and depth estimation on the UTV using the KITTI dataset, achieving 2-meter accuracy and establishing spatial relationships for real-time navigation and obstacle avoidance.
- **Two-wheel Self-balancing Robot:** Developed software systems for a prototype of **EvoBOT** for grasping, carrying tasks, and path traversal on slopes, rough terrains, and slippery surfaces.

Pune, India

Aug '19 - April '20

PROJECT HIGHLIGHTS

Equity Research Chatbot | Node.js, React, MongoDB, Docker, AWS, Hugging Face [\[GitHub\]](#)

Jun '24 - Jul '24

- Engineered an automated chatbot to streamline equity research by retrieving and analyzing financial news articles.
- Built with a Node.js backend, React frontend, and MongoDB for search history; used Hugging Face for article processing and Pinecone for semantic search, achieving **92%** accuracy.
- Deployed on AWS with Docker and CI/CD via GitHub Actions, reducing analysis time by 85%.

ASL (American Sign Language) Fingerspelling Recognition | CNNs and Transformer Models [\[GitHub\]](#)

Dec '23 - Apr '24

- Composed a CNN with TensorFlow and Keras, achieving 85% validation accuracy in classifying ASL fingerspelling images, leveraging Mediapipe for hand landmark detection and keypoint extraction.
- Utilized a Transformer model to capture temporal dependencies in hand keypoints, boosting recognition accuracy, and compiled the model with the Adam optimizer and dropout layers to prevent overfitting.
- Achieved **top 10% ranking** in Kaggle competition with 74.3% test accuracy by implementing hyperparameter tuning.

LEADERSHIP AND HONORS

- Awarded **All India Rank 1** among 80 participating colleges in an **International Robotics Competition**. Developed a manually controlled robot and an **autonomous horse-robot** with GAIT movement.
- Orchestrated chapter operations as **President** of Information Systems Audit and Control Association Committee, India; attended by over 1200 students and foreign delegates.

June '19

May '21