# Vinay Sivvala

New York | vsivvala16@gmail.com | (607)-296-8142 | My Portfolio | LinkedIn | GitHub

## Education

**State University of New York at Binghamton**, Master's in Computer Science — Aug 2023 – May 2025

- **GPA:** 3.8/4.0
- **Coursework:** Design Analysis and Algorithms, Operating Systems, Programming Languages, Artificial Intelligence, Human Computer Interaction, Machine Learning, Programming for web, Design Patterns, Software & Project Management.

## Skills

**Programming Languages and Database:** C++, C, Java, Python, MySQL

**Machine Learning:** Scikit-learn, TensorFlow, PyTorch, Feature Engineering, Data Preprocessing, Model Evaluation, Hyperparameter Tuning, CNNs, Transformers, NLP, Transfer Learning, Model Deployment, Data Visualization (Matplotlib, Seaborn, Power BI)

**Software and OS:** Eclipse, Android Studio, Visual Studio Code, Git, Linux, CI/CD Pipelines

**Web:** HTML, CSS, JavaScript, Bootstrap, Web Scraping Using Python and Selenium

## Professional Experience

**Data Science Intern**, AdVantage Ecosystem – Remote — Nov 2024 – Jan 2025

- Analyzed user engagement data in gamified learning quests using Python and SQL to identify drop-off patterns
- Investigated key friction points in the user learning journey to enhance overall experience
- Designed interactive dashboards using Tableau and Matplotlib to track badge progress and leaderboard activity, improving retention by 9%

**Machine Learning Intern**, Tech Shell Software Pvt Ltd – Hyderabad, India — Apr 2023 – Jun 2023

- Created a web scraping pipeline using Python and Selenium to extract 2.5K+ records from rendered pages
- Stored structured data in CSV format for use in downstream LLM training and content workflows
- Enhanced scraping speed by 30% and improved dataset quality by 40% through headless execution, parallel threads, and data cleansing

## Projects

**Prediction of Diseases based on Facial Diagnosis** — github

- Engineered and fine-tuned a VGG16-based transfer learning model to classify beta-thalassemia, leprosy, hyperthyroidism, and Down syndrome, achieving 98% accuracy
- Enhanced model generalization using image normalization and augmentation; optimized hyperparameters and evaluated performance using accuracy, precision, recall, and F1 score

**Facial Emotion Detection** — github

- Fine-tuned a ResNet-50 model for facial emotion recognition using transfer learning, achieving up to 93.9% accuracy in classes like sadness and pain
- Deployed the model with a Flask backend and HTML/JS frontend, enabling real-time emotion detection from uploaded facial images.

**Digit Recognition App** — github

- Built a CNN model for MNIST digit recognition, achieving 99.5% accuracy and 0.022 loss; integrated the model into an Android app with real-time camera-based input
- Optimized mobile processing via seamless image capture; applied Adam, RMSprop, and regularization techniques (L1, L2, Dropout) for stability and accuracy

## Certifications

- IBM Deep Learning with PyTorch, Keras and Tensorflow
- Google Data Analytics Course by Coursera
- British Airways Data Science Job Simulation by Forage