Prajay Yalamanchili

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Objective

Results-driven individual with expertise in machine learning and computer vision, seeking a role that allows the application of advanced technology to real-world challenges. Aiming to contribute to a research team where attention to detail, teamwork, and innovative problem-solving are valued. Passionate about leveraging AI-based solutions to improve efficiency, enhance data analysis, and drive impactful outcomes in dynamic environments.

Education

University of Florida Aug. 2023 – May 2025
Master of science in Computer Science *Current GPA: 3.77/4.0*

Jawaharlal Nehru Technological University Hyderabad July 2022
Bachelor of Technology in Computer Science *GPA: 8.55/10*

Skills

Languages: Python, MATLAB, Java, JavaScript/TypeScript, HTML/CSS
ML Frameworks: YOLO, Autoencoders, R-CNN models, Transformers, Scikit-Learn, Keras, TensorFlow, NLTK
Computer Vision tools: PyTorch, OpenCV, SimpleITK
Databases: MySQL, Oracle, PostgreSQL
Tools: Pycharm, Spyder, Jupyter Notebook, Maven, Git, Postman

Experience

Cognizant | *Programmer Analyst* Sept. 2022 – July 2023

- Designed and implemented AWS lambda functions for various business logic requirements and worked on AWS SAM. Ensured the code base was organized, readable and easily maintainable by following best practices and utilizing appropriate design patterns.
- Designed and implemented comprehensive test suites to guarantee the reliability of software solutions, achieving 100 percent code coverage
- Demonstrated proficiency in python programming, including the use of libraries like boto3 and frameworks such as fastAPI

Cognizant | *Java Full stack Intern* Feb. 2022 – Aug. 2022

- Worked on a demo audit management system that automated the process of auditing for a leading supply chain management by building a website using angular on front-end and spring microservices for back-end
- Used spring security to secure end points and achieved average google pagespeed insights of above 90.
- Supervised a 4+ team members and was responsible for software deliverables

Ram Innovative Infotech | *Junior Intern* Jan. 2022

- Assisted in configuring and maintaining network hardware, including switches and routers, to ensure optimal performance and connectivity
- Conducted network security audits, identifying vulnerabilities and implementing appropriate measures to safeguard against unauthorized access

Future Ready Talent | *Intern* Sep. 2021 – Dec. 2021

- Developed a CRUD application for storing student details using thymeleaf template on front-end and Java springBoot for back-end
- Deployed the application on Microsoft azure, utilizing services such as azure app service, azure MySQL for the database and azure blob storage for storing images
- Implemented performance optimizations, resulting in a 15% decrease in average page load times and a 30% improvement in server response times.

Projects

Plant Disease Detection with Image Processing and Deep Learning | *OpenCV, Keras, TensorFlow*

- Developed a computer vision pipeline to diagnose plant diseases based on leaf images, focusing on categories like "healthy", "scab", "rust", and "multiple diseases"
- Demonstrated image augmentation techniques to increase dataset diversity and robustness for model training
- Utilized pretrained Keras models such as DenseNet and EfficientNet to classify plant diseases, leveraging the power of convolutional neural networks (CNNs)
- Implemented ReLU activation functions and MaxPooling to build a robust neural network structure
- Set up a Tensor Processing Unit (TPU) environment for distributed training, utilizing TensorFlow's TPU capabilities for faster model training
- Visualized results using Matplotlib and Plotly to gain insights into the model's performance

Covid-19 Detection Through Symptoms | *Scikit-learn, Pandas, NumPy, Imbalanced-learn*

- Our machine learning model predicts the probability of covid-19 infection using only five symptoms such as sage, body pain and fever
- Utilized Python libraries such as NumPy, Pandas, and Tabula for data manipulation and analysis. Employed data visualization techniques to understand disease trends by visualizing the extracted data
- Leveraged Matplotlib and Seaborn for data visualization
- Enhanced the model's performance through data augmentation techniques. Implemented techniques such as SMOTE (Synthetic Minority Over-sampling Technique) using the imbalanced-learn library
- Conducted hyperparameter tuning to optimize the model's predictive accuracy. Utilized techniques such as GridSearchCV from the scikit-learn library for hyperparameter tuning

IOT Devices Spam Detection using Random Forest | *Scikit-learn, Numpy, Pandas, Matplotlib, Flask*

- Built a machine learning model that identifies spam/anomalous data received by IoT devices
- The data set used for this model consists of 32 features and around 5000 rows of data
- Instead of using terminal/CLI, we developed a user-friendly website where the user can upload training data, train/test it, and can see the prediction
- The website also consists of a performance page that depicts correlation analysis and confusion matrix

National Economic Outlook | *Flask, React, Oracle, Git, Visual studio Code*

- Team project for the Database Management System Course
- The National Economic Outlook aims to analyze various economic trends and indicators using real-world datasets, exploring key queries related to GDP, poverty, homelessness, unemployment, and income inequality in US states
- Designed and implemented a web-based user interface using React JS with multiple pages, including a dynamic dashboard, data visualization pages and admin login page
- Contributed to the development of the back-end using flask, leveraging its faster development time
- Collected various economic indicator datasets, contributing to a total record count of 750,000. Actively participated in data cleaning efforts as part of the team

Audit Management System | *Scikit-learn, Numpy, Pandas, Matplotlib, Flask*

- Developed Audit Management system with microservice architecture using Angular Framework on front-end and JavaSpringBoot on back-end
- Authentication and Authorization using spring security
- Used Postman to test API End Points, MySQL database for storing data managed through MySQLworkbench. Final application deployed on AWS
- The website also consists of a performance page that depicts correlation analysis and confusion matrix

Certifications

- Applied Machine learning using Python, University of Michigan
- Python for Data Science, NPTEL
- Fundamentals of Architecting Scalable Cloud Solutions, Red Hat
- Python Developer, Guvi
- Amazon Web Services for Developers

Accomplishments

- Infosys Certified Software Programmer
- Won gold medal in State open Taekwondo Championships