Pranav Kizhakkevellat Nair

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SUMMARY

I have a strong foundation in machine learning, predictive modeling, and statistical analysis, with hands-on experience using PyTorch, TensorFlow, and Scikit-Learn to develop scalable solutions to complex problems. Proficient in Python and SQL, I'm skilled in data manipulation and analysis. My background includes statistical modeling, hypothesis testing, and experimental design to drive data-informed decisions. I also have experience building ML pipelines, from data pre-processing and feature engineering to model development and evaluation, delivering actionable insights in real-world applications.

EDUCATION

Northeastern University, Boston, MA   **May 2024**
Master of Science in Robotics
Related Courses: Reinforcement Learning, Pattern Recognition & Computer Vision, Data Visualization

SRM Institute of Science and Technology, Kattankulathur, India   **May 2022**
Bachelor of Technology in Computer Science and Engineering
Related Courses: Artificial Intelligence, Data Structures & Algorithms, Object Oriented Design & Programming

TECHNICAL SKILLS & KNOWLEDGE

Languages	Python, C++, C, R, SQL, Matlab
Frameworks/Libraries/Tools	Git, PyTorch, Tensorflow, Keras, OpenMP, CUDA, OpenCV, MediaPipe, Pandas, Scikit-Learn, NumPy, Microsoft Power BI, Tableau, Matplotlib, Seaborn, ROS
Certificates	IBM Data Science Professional Certificate, IBM Generative AI for Data Scientists, Introduction to Machine Learning

EXPERIENCE

Multicoreware Inc., Champaign, IL   **September 2024 - Present**
Software Engineer
- Engineered enhancements to LLVM-MCTOLL for ARM32 to x86 static binary translation of Android APK shared object files
- Developed testing suites for translation validation, ensuring the correctness of the output
- Automated benchmarking pipelines and utilized Android Studio's profiling tool, aggregating execution time, memory usage, and profiling metrics from the original and translated APKs, to analyze the performance differences and identify bottlenecks
- Optimized code to reduce execution time of translated APKs by 33%; documented performance trends and technical findings

Fiserv Inc., Chennai, India   **June - July 2021**
Technical Program Analyst (Intern)
- Executed end-to-end data analysis using advanced Microsoft Excel, including cleaning, transforming, and preparing data from multiple sources as part of an ETL (Extract, Transform, and Load) process to ensure data quality and consistency
- Developed an interactive Power BI dashboard that provided stakeholders with visibility into the capabilities, skillsets, and distribution of off-roll employees linked to Fiserv via external vendors, supporting data-driven workforce decisions

Agrix, Chennai, India   **Feb - July 2021**
Mobile Application Developer (Intern)
- Responsible for leading a team and conducting biweekly meetings in developing a Flutter-based Android GPS tracking application for monitoring company tractors and machinery
- Integrated the app with OpenStreetMap API to provide real-time location visibility and implemented Firebase backend for storing operational metrics

PROJECTS

Stock Price Prediction, GitHub Link   **November 2023**
- Developed a Stock Price Prediction system employing AI models such as LSTM, GRU, 1D CNN, and ESN
- Applied Sentiment Analysis on Twitter feed related to each company, aligning with time series data entries in the dataset
- Compared the predictive performances of the 4 models, determining that ESN yielded the most accurate results with a Mean Absolute Percentage Error of 2.07%

Computer Vision Gesture-Driven Simulated Car, GitHub Link   **April 2023**
- Manipulated car movement in Gazebo by applying differential drive control using ROS and recognized hand gestures
- Evaluated the difference in performance between a computer vision model trained only on RGB images and one with RGB images along with the 21 hand keypoints extracted by Google MediaPipe
- Achieved 84.4% accuracy with RGB images and 94.8% accuracy with RGB images + keypoints for gesture recognition
- Implemented Reduce on Plateau scheduler to adjust optimizer's learning rate based on validation accuracy to prevent overfitting