Nihaal Bhojwani

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Education

University of Maryland - College Park Aug. 2022 - Dec. 2025
Bachelor of Science in Computer Science, Concentration in Machine Learning *GPA: 3.87*

Work Experience

Machine Learning Researcher Dec. 2024 – Present
Caltech *Pasadena, CA*

- Enabling and accelerating scientific applications by developing new AI methods

Machine Learning Engineer Intern Jun. 2024 – Jan. 2025
Lockheed Martin *Colorado Springs, CO*

- Developed neural networks using Python and TensorFlow, focusing on Long Short-Term Memory (LSTM) networks and Mixture Density Networks for time-series predictions, within an agile work environment
- Authored and optimized mathematical algorithms in linear algebra and calculus, leveraging Jax for high-performance automatic differentiation and just-in-time compilation, significantly improving computational efficiency
- Explored algorithms relating to graph theory and generative graph solutions, while researching the use of transformers for improved accuracy

Artificial Intelligence Research Intern Aug. 2023 – Dec. 2023
NASA Ames Research Center *Remote*

- Continued research and optimization on Long Short-Term Memory for air traffic control using PyTorch, with the current model training at 92% accuracy
- Leveraged 1-D Convolutional Neural Networks to enhance feature extraction and improve model performance by 2% and increase F1-Score by 2 points

Software Engineer and Sports Science Intern May 2023 – Aug. 2023
Maryland Terrapins Football *College Park, MD*

- Developed and implemented data pipelines using Azure Data Factory to automate the ingestion, processing, and analysis of athletic performance data from 1080 sprint, Catapult, Force Plates, and Polar HR monitors
- Designed and built an AI-driven system leveraging PFF (Pro Football Focus) data, employing Python and TensorFlow to provide personalized coaching recommendations based on player performance analytics

Artificial Intelligence Research Intern Jan. 2023 – May 2023
NASA Ames Research Center *Remote*

- Developed a deep learning model to help air traffic control and predict Traffic Management Initiatives using a Recurrent Neural Network
- Preprocessed and cleaned data to forecast time series data 3 hours in the future with 87% accuracy on an imbalanced dataset

Projects

NBA Analytics | *Python, Selenium, Pandas, Scikit-learn, Matplotlib, Seaborn* April. 2024 – May 2024

- Scraped and processed NBA team and opponent data from 2010 to 2024 using Selenium, BeautifulSoup, and Pandas, ensuring a comprehensive dataset
- Implemented data preprocessing, including normalization and PCA for dimensionality reduction, to prepare for model training
- Developed and evaluated predictive models using Random Forest Regressor with Scikit-learn, achieving significant accuracy in forecasting playoff success. Found at: https://nihaalb29.github.io/NihaalB29.github.io-/

Technical Skills

Java, Python, C, C#, OCaml, Rust, Keras, PyTorch, Unity, Python Machine Learning, JavaScript, HTML/CSS, MATLAB, Linux/Unix, Assembly, Git, Docker, Android Studio, Jax, TensorFlow, MongoDB, CI/CD, GitLab, Flutter, Dart