

KAUSSHIK MANOJKUMAR

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Education

Iowa State University

Bachelor of Science in Computer Science, Minor in Mathematics with Honors

Expected: May 2025

GPA: 3.97

Stanford University Online

Machine Learning Specialization

January 2024

Skills

Languages: Python, Java, C, C++, JavaScript, SQL, Verilog, Bash

Frameworks: PyTorch, Flask, Spring Boot, TensorFlow, OpenCV, NumPy, Pandas, HTML5, CSS, React, ROS

Databases: MySQL, AWS DynamoDB, AWS RDS

Tools & Technologies: Git, AWS (S3, EC2), SVN, Docker

Work Experience

RTX, Collins Aerospace (FMS)

May 2023 – Present

Software Engineering Intern

Cedar Rapids, IA

- Contributed to modernizing a vast code base by implementing updated calculations to improve the accuracy of certain parameters in the Flight Management System by 15%.
- Executed and refined high-level, low-level, and regression tests in an Agile environment, enhancing software reliability and ensuring strict adherence to specified requirements.
- Identified and resolved 5 critical security vulnerabilities, improving system integrity score by 90%.

Iowa State University

May 2024 – Present

Machine Learning Research Assistant, Dr. Yang Li

Ames, IA

- Utilized PyTorch to modify the Transformer architecture of a deep learning model to integrate spatio-temporal data and auxiliary data
- Achieved 30% more accuracy than state of the art models in forecasting time series data
- Engineered efficient data preprocessing pipelines for large-scale time series datasets, optimizing model performance

Projects

Stock Price Prediction Using Transformers | Python, PyTorch, Time Series Analysis

May 2024 – July 2024

- Developed a custom Transformer architecture to predict S&P 500 stock prices using historical data, auxiliary information, and other financial metrics
- Implemented data preprocessing pipelines to handle time series data and integrate multiple data sources
- Achieved a 25% improvement in prediction accuracy (MAPE) compared to traditional ARIMA and LSTM models

SwipeHire Android Application | Java, Spring Boot, MySQL, WebSockets

January 2023 – May 2023

- Developed RESTful APIs for the backend functionality using Java, Spring Boot, and MySQL
- Integrated WebSockets for real-time texting and swiping features, providing a comprehensive platform for efficient hiring management
- Established CI/CD pipelines, to automate code deployment to ensure rapid iterations and updates
- Modified existing Junit tests and increased test coverage to 90%, resulting in a 40% reduction in post-release bugs

BeGreen Sustainability Application | Flask, Python, AWS RDS, OpenAI API

March 2024 – April 2024

- Developed the backend of a sustainability application using Flask, Python, and AWS RDS (MySQL) to promote eco-friendly living through gamification for the Yale Hackathon
- Optimized database queries and API endpoints, resulting in a 35% reduction in response times
- Implemented an ML model using OpenAI's API, increasing user engagement by 45%

Brain Tumor Classification | TensorFlow, Keras, CNN, Transfer Learning

August 2023 – October 2023

- Processed and augmented a dataset of 3000+ MRI images, increasing model robustness
- Achieved 97% accuracy on a test set of 500 images, outperforming baseline models by 30%
- Validated the model's efficiency using real medical data from multiple patients in India with an accuracy of 90%

Extra-Curricular Activities

National Talent Search Examination Scholar 2019: Placed in the top 2000 out of 1.5 million students across India

Delegate of India: Royal Commonwealth Society's India-Malaysia Student Exchange on Sustainable Development Goals