KAVAN KUMARESHAN

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EDUCATION

Master of Science in Artificial Intelligence — **Jan 2025 - Dec 2026**
University of Michigan-Dearborn — Dearborn, MI

Bachelor of Engineering in Computer Science and Engineering (GPA-3.3) — **Sep 2018-Jul 2022**
KNS Institute of Technology — Bangalore, India

SKILLS

- **Programming Skills:** Java, Python, MySQL, Data Structures & Algorithms, HTML, CSS, PHP.
- **Frameworks:** TensorFlow, Keras, Pandas, NumPy, Matplotlib, PyTorch, Seaborn, Spring Framework.
- **Machine Learning Algorithms:** Regression, Natural Language Processing (NLP).
- **Tools:** Excel, Word, Git & GitHub, AWS, Docker.
- **Software:** Visual Studio Code, IntelliJ IDEA, Eclipse, MySQL, Jupyter Notebook, Colab, Python IDLE.

EXPERIENCE

Research Intern — **Sep 2021-Oct 2021**
Compsoft Technologies — Bangalore, India

- I conducted research on Sentiment Analysis, focusing on analysing IMDb movie reviews to determine positive or negative sentiments.
- Utilized and analyzed comprehensive datasets sourced from Stanford Artificial Intelligence Laboratory for binary sentiment classification, focusing on IMDb movie reviews.
- Implemented a Python-based machine learning model for sentiment analysis, employing libraries such as NumPy, Pandas, Matplotlib, WordCloud and others.
- I worked with a subset of 1,000 instances to refine the model, ensuring its effectiveness in sentiment classification.
- I led data preprocessing, error analysis, and parameter tuning processes in the project to optimize the performance of machine learning models.

Technical Intern — **Sep 2021 - Oct 2021**
Nano Robotics Embed Technology — Bangalore, India

- I executed comprehensive model training and optimization utilizing Python, fine-tuning CNN models to extract features from images.
- Utilized appropriate tools and frameworks to preprocess, augment, and prepare image data for effective CNN model training.
- We successfully designed and implemented a Convolutional Neural Network (CNN) algorithm for accurate image classification of various animals. The model demonstrated proficiency in pattern recognition, resulting in improved performance of 60% and efficiency in the field of image classification.

ACADEMIC PROJECTS & LABS

Intrusion Detection System — **Sep 2022 - Jul 2022**

- I developed and implemented an anomaly-based Intrusion Detection System (IDS) using Java programming, leveraging the Naive Bayes algorithm and Multivariate Linear Regression for feature extraction. Seaborn to display the accuracy graph.
- The system showcased the ability to detect network intrusions by analyzing benchmark datasets and identifying deviations from historical patterns. This improved the detection rate by 90% in real time
- As an outcome the system alerted users about the detected anomalies, providing IP addresses of anomaly. The model built was stable under all conditions that contributed to network security under every scenario.
- **Tech Stack, Tools & Libraries Used: Java Programming, Machine Learning Algorithms, NetBeans IDE, JPcap, WinPcap.**

Taxi Booking and Management System — **Sep 2020 - Dec 2020**

- I designed and implemented the user interface (UI) using HTML and CSS to facilitate seamless taxi bookings for end-users.
- Utilized PHP to create dynamic and interactive web pages, enhancing the user experience in the booking process.
- Implemented a robust back-end system using MySQL for efficient data storage, retrieval, and management of user, driver, and car information.
- Configured and maintained the Apache server within the XAMPP environment, which increased the stability by 40%. It also facilitated local hosting and testing of the software
- **Tech Stack, Tools & Libraries used: HTML, CSS, PHP, MYSQL, XAMPP**

CERTIFICATIONS & TRAININGS

- Oracle Fusion Cloud Applications Certified Foundations Associate (CX, ERP, SCM, HCM) — **Mar 2025**
- Python Basics - KodeKloud — **Nov 2023**