Yeshwanth Akula
Machine Learning Intern
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Professional Summary:

- Graduate student in **Computer Science** with a strong foundation in **software development, data structures, and machine learning**..
- Skilled in **Python, Java, SQL, HTML, CSS, JavaScript**, and mobile app development using **Android (Java, XML, Firebase)**.
- Experienced with tools and platforms such as **Google Colab**, **GitHub**, and **MS Excel** for development and data analysis.
- Worked as a **Teaching Assistant** supporting instruction in Data Structures and mentoring undergraduate students.
- Led multiple university initiatives as **Vice President of the UEAC** and **Public Relations Lead** for large-scale cultural and technical fests.
- Recognized for **leadership, teamwork, and communication** skills through active participation in academic and extracurricular programs.
- Passionate about building **efficient, user-centric software solutions** and exploring applications of **AI/ML technologies**.

Technical Skills:

Programming Languages	Python, Java, C, SQL
Web Technologies	HTML, CSS, JavaScript
Mobile App Development	Android (Java, XML, Firebase)
Machine Learning & Data Tools	Python (Pandas, NumPy, Matplotlib), Google Colab
Databases	MySQL, Firebase
Version Control & Tools	GitHub, MS Excel
Core Competencies	Data Structures, Problem Solving, Analytical Thinking, Team Collaboration

Academic & Technical Projects:

Online Food Ordering System
Responsibilities:

- Designed and developed a **secure, full-stack food ordering platform** where customers can browse menus, add items to a cart, and complete online orders.
- **Implemented Java Servlets and JDBC to connect the web interface with a relational SQL database, ensuring real-time synchronization of orders and inventory.**
- Built a **modular architecture** separating presentation, business logic, and data layers to improve scalability and maintainability.
- Created a **responsive user interface** using HTML, CSS, and JavaScript that adapts seamlessly across desktop and mobile devices.
- Integrated **user authentication, input validation, and session management** to ensure data privacy and prevent unauthorized access.
- Designed and optimized **database schemas** for managing products, users, and transactions efficiently using SQL joins and stored procedures.
- Conducted **manual testing and debugging** to identify issues in data flow, query execution, and page navigation before deployment.
- Enhanced user experience by adding **order tracking, search filters, and interactive UI elements** to improve customer engagement.

Environment: Java, JDK 17, Apache Tomcat, MySQL, JDBC, HTML, CSS, JavaScript, Eclipse IDE, Windows 10

Movie Recommendation Website
Responsibilities:

- Developed a **content-based movie recommendation system** that suggests movies based on user preferences and similarity scores between movie attributes.
- Collected and processed datasets containing thousands of movies, genres, and user ratings using **Pandas and NumPy** for data manipulation.
- Implemented **data cleaning techniques** to handle missing, inconsistent, or duplicate records, ensuring high-quality

inputs for model training.

- Applied **cosine similarity and correlation-based algorithms** to calculate relationships between movie metadata such as genres, directors, and keywords.
- Visualized dataset trends using **Matplotlib** and **Seaborn**, generating insights into genre popularity and user behavior patterns.
- Integrated the recommendation logic into a **web-based interface**, allowing users to input their preferences and receive real-time recommendations.
- Tested multiple algorithms to compare performance and fine-tuned model parameters for better accuracy and responsiveness.
- Documented the entire process from dataset preparation to recommendation deployment to facilitate reproducibility and future scalability.

Environment: Python 3.11, Jupyter Notebook, Google Colab, Pandas, NumPy, Matplotlib, Seaborn, Scikit-learn, Windows 10

Student Android App
Responsibilities:

- Designed and developed a **feature-rich Android application** that enables students to manage academic activities, announcements, and real-time notifications.
- Utilized **Java and XML** for front-end development, building a clean, user-friendly layout with interactive navigation between multiple fragments and activities.
- Configured **Firebase Authentication** for secure login and **Firebase Realtime Database** to synchronize user data and announcements instantly.
- Implemented **CRUD operations** (Create, Read, Update, Delete) to manage student profiles, assignments, and schedules dynamically.
- Built custom adapters and recycle reviews for displaying data efficiently, enhancing both app speed and usability.
- Ensured data persistence across sessions using local caching and cloud synchronization for a smooth user experience.
- Conducted **functional and performance testing** on multiple Android devices to ensure compatibility, responsiveness, and reliability.
- Integrated **push notifications and alerts** for important updates, improving real-time communication between students and faculty..
- Focused on **UI/UX design principles** to maintain visual consistency and accessibility across all app features.

Environment: Android Studio, Java, XML, Firebase Realtime Database, Firebase Authentication, Gradle, Android SDK, Windows 10

Object Detection using YOLOv8
Responsibilities:

- Implemented a **deep learning model** using **YOLOv8 (You Only Look Once)** to detect and classify multiple objects within images and videos.
- Prepared a comprehensive dataset by collecting, labeling, and annotating images, ensuring diverse and balanced class representation.
- Performed **data preprocessing**, including resizing, augmentation, and normalization, to improve model generalization and robustness..
- Trained the model on **Google Colab GPU runtime**, leveraging high-performance computing resources to accelerate the training process.
- Tuned **hyperparameters such as learning rate, confidence threshold, and batch size** to optimize detection accuracy and minimize false positives.
- Evaluated model performance using metrics like **Precision, Recall, and Mean Average Precision (mAP)** to measure detection quality.
- Developed Python scripts to visualize bounding boxes, object labels, and confidence scores on both images and real-time video streams.
- Compared results between different YOLO versions and training configurations to identify optimal model settings.
- Documented the workflow for **future improvements and scalability**, including potential real-world use cases like surveillance, robotics, and automation.

Environment: Python 3.11, Google Colab (GPU Runtime), YOLOv8 Framework, OpenCV, PyTorch, Pandas, NumPy, Matplotlib, LabelImg, Windows.

Academic Qualification:

- Completed a **Bachelor of Technology in Computer Science and Engineering** from **Vignan's Foundation for Science, Technology & Research, Guntur, India** (December 2020 – April 2024).
- Pursuing a **Master of Science in Computer Science** at **Saint Louis University, St. Louis, MO** (August 2024 – May 2026).