MONISH KUMAR DHANASEKAR (Graduating May 2025)

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EDUCATION

Binghamton University, State University of New York, Thomas J. Watson College of Engineering and Applied Science
Master of Science in Computer Science   **August 2023 - May 2025**
Relevant Coursework: Machine Learning, Design Patterns, Database Systems, Analysis of Algorithms, Operating Systems, Web Programming, Distributed Systems, Systems Programming.

Anna University, Chennai, India   **August 2018 - May 2022**
Bachelors of Engineering in Electrical and Electronics
Relevant Coursework: Python Programming Fundamentals, Object Oriented Programming, C Programming Fundamentals.

SKILLS

Languages: Python, Java, SQL, C, C++, JavaScript, TypeScript, HTML, CSS.
Database and Storage: MongoDB, MySQL, PostgreSQL, S3, AWS, Redis, DynamoDB.
Frameworks and Libraries: Django, ReactJs, NodeJs, ExpressJs, VueJs, TailwindCSS, TensorFlow, PyTorch, OpenCV, NumPy, Pandas.
Tools: Docker, Hadoop, Spark, Git, GitHub, DBeaver, Postman, Tableau, Android Studio, Vercel, RabbitMQ, ROS2, NAV2.

PROFESSIONAL EXPERIENCE

Software Developer Intern | Entertainment Technologists Development Corp. | California, USA.   **Sept 2024 - December 2024**
- Engineered an AI/ML model for receipt processing using TensorFlow, Keras, Pandas, and OpenCV, enhancing media workflows by improving image processing accuracy, video rendering efficiency, and content analysis precision.
- Implemented seamless integration between front-end interfaces and AI/ML models using React, TailwindCSS and Vite.js, streamlining input data collection workflows and reducing processing time by 40%.
- Optimized data storage by integrating MongoDB, improving retrieval and reducing storage redundancy for processed image data.
- Deployed models on AWS to ensure scalability and optimized performance across diverse media processing applications.

Web Developer Intern | The Grafician. | Chennai, India.   **July 2022 – November 2022**
- Improved website functionality by implementing new features and optimizing existing ones through A/B testing, contributing to a 50% improvement in conversion rates and enhancing user engagement by refining user flows and interactions.
- Collaborated closely with design teams to ensure visually appealing and user-centric interfaces, resulting in high-quality end products that met and exceeded client expectations.

Software Engineer Intern | Mistral Solutions Private Limited. | Bangalore, India.   **March 2022 – June 2022**
- Integrated ROS2 Foxy with Python to enable real-time communication between sensors and a trained machine learning model for detecting biodegradable items, facilitating efficient data exchange and decision-making.
- Enhanced machine learning algorithms, boosting detection accuracy by 50% and perception accuracy by 25%.
- Optimized system architecture, cutting processing time by 60% and improving robot performance.

PROJECT EXPERIENCE

Real Time Chat Application, Personal Project   **November 2024**
- Developed a dynamic, real-time group chat application using Java (Spring Boot) for the backend, JavaScript, HTML, and CSS for the frontend, and integrated WebSocket with STOMP protocol for seamless live communication.
- Configured a scalable messaging system using RabbitMQ as the broker for message persistence and Axios for REST API communication, ensuring reliable delivery even during client disconnections.
- Crafted robust features including group creation, joining, message broadcasting, active user tracking, and an automatic WebSocket reconnection mechanism to fortify fault tolerance and high availability.

ATS Resume Checker, Personal Project   **August 2024 - September 2024**
- Built an ATS Resume Checker with Python and Flask, designed to analyze resumes and match them to job descriptions.
- Utilized Natural Language Processing (NLP) libraries to extract and interpret critical details from resumes and job postings.
- Constructed an intuitive web interface for easy resume uploads and detailed feedback, highlighting expertise in backend development, NLP, API's and AI integration.

Air Mouse, Personal Project   **July 2024**
- Created an Air Mouse application using Python, harnessing OpenCV for video capture and image analysis, combined with Mediapipe for accurate hand tracking.
- Applied "pynput" to map hand gestures into mouse actions, achieving real-time cursor control and click detection.
- Showcased adeptness in computer vision and gesture tracking through seamless technology integration.

Horror Movie Data Analysis, Personal Project   **December 2023**
- Conducted comprehensive analysis of horror film data using machine learning to uncover audience preferences across decades.
- Designed and deployed a scalable software architecture utilizing MongoDB Atlas and Python Flask for efficient data management.
- Enhanced audience engagement predictions by 25% through advanced algorithms and data visualizations.