MONISH KUMAR DHANASEKAR

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PROFESSIONAL EXPERIENCE

AI Software Engineer Intern | One Click Immigration | California, USA   **May 2025 - Present**
- Architected and implemented a Retrieval-Augmented Generation (**RAG) AI assistant**, performing **system** and **API design** to integrate **Supabase vector databases** with **OpenAI GPT models;** processed 1,000+ legal documents with **88% retrieval accuracy**, enabling attorneys to complete case research **40% faster**, and conducted comprehensive **unit and integration testing** to ensure reliability.
- Automated distributed ingestion pipelines using **AWS Lambda** triggers and batch embeddings, cutting manual processing by **40%**, improving query latency by **30%**, and ensuring near real-time document availability.
- Deployed and scaled the platform on **AWS** with **CloudWatch** monitoring, alert-driven autoscaling, and fault tolerance/high availability mechanisms, improving **scalability** and reducing cloud infrastructure costs by **20%** while maintaining uptime under variable workloads.
- Unified multiple AI assistants into one conversational interface using **LangChain, LangGraph, and CrewAI**, allowing users to query a single chat assistant and get responses from all connected assistants, improving usability and increasing adoption rates by 25%.

Software Developer Intern | Entertainment Technologists Development Corp | California, USA   **August 2024 - December 2024**
- Designed and developed an **AI-powered receipt processing platform** leveraging **Tesseract OCR** and **Python NLP** pipelines to extract structured financial data from unformatted receipt images with **85% extraction accuracy**, reducing manual data entry effort.
- Integrated a **React.js** frontend with a **Flask** backend over **REST APIs**, implementing asynchronous upload handling and web worker processing to eliminate client-side lag and improve UX responsiveness.
- Built GitHub Actions CI/CD pipeline to AWS EC2, integrating automated PyTest and Jest tests ensuring code quality and integrity.

Frontend Engineer Intern | The Grafician | Chennai, India   **July 2022 - November 2022**
- Led end-to-end development of **responsive websites for 8+ clients** across industries using **JavaScript, HTML5, CSS3, and React.js**, collaborating with a 5-member cross-functional team to **deliver projects on time** and within specifications.
- Converted complex Figma/XD prototypes into pixel-perfect, brand-compliant interfaces, boosting **client satisfaction** by 30%, and optimized performance with lazy loading, code splitting, and Framer Motion animations, cutting bundle size and improving load times.
- Integrated **RESTful APIs** with client-side routing in **React Router**, ensuring cross-browser compatibility and fully responsive layouts through structured **QA testing** with **TailwindCSS**, **Bootstrap**, Git-based version control, and Agile delivery.

Software Engineer Intern | Mistral Solutions Private Limited | Bangalore, India   **February 2022 - June 2022**
- Contributed to the development and deployment of embedded systems and autonomous robotics software, integrating **ROS2 Foxy**, **Python**, and **C++** for **real-time communication** between IoT sensors, actuators, and machine learning models.
- Assisted in optimizing **computer vision algorithms** for image classification and object detection by preparing datasets, implementing **image preprocessing with TensorFlow and OpenCV**, tuning model parameters, and leveraging GPU acceleration; improved detection accuracy by **40%** and precision by **25%**, enhancing navigation reliability in autonomous platforms.
- Collaborated in **Agile sprints** to refine system architecture, reducing data latency by 40% and boosting real-time throughput, and supported the creation of observability dashboards with **Python**, **Flask**, and **JavaScript** to accelerate issue diagnosis.

PROJECTS

Real Time Chat Application   **November 2024**
- Developed a scalable microservices-based group chat app like WhatsApp using **Java (Spring Boot)**, **WebSocket (STOMP)**, and **RabbitMQ** for low-latency, bi-directional messaging supporting 500+ concurrent users without downtime.
- Implemented one-on-one and group chats, securing REST APIs (Axios, JWT) for reliable real-time and on-demand communication.

ATS Resume Checker   **August 2024 - September 2024**
- Developed an ATS resume analysis platform to evaluate formatting, keyword relevance, and job description match, identifying missing keywords. Designed scoring algorithms and integrated **OpenAI API** to deliver actionable feedback for improving shortlisting chances.
- Built with **Django**, **Python**, **Vite.js**, **TailwindCSS**, and **NLP libraries** (spaCy, regex parsing) to analyze content, structure, and keyword density, and delivered an interactive dashboard for users to view scores, keyword gaps, and tailored improvement suggestions.

Air Mouse   **July 2024**
- Created a **touchless air mouse application** using **Python**, **OpenCV**, and **MediaPipe** for real-time hand gesture tracking.
- Implemented gesture-based cursor control with latency **under 50ms**, enabling smooth, responsive interaction.

SKILLS

Programming Languages: Python, Java, C++, JavaScript, TypeScript, SQL, HTML5, CSS3
Frameworks & Libraries: React.js, Node.js, Express.js, Flask, FastAPI, Django, Spring Boot
Databases & Storage: MongoDB, PostgreSQL, MySQL, DynamoDB, Redis, Amazon Redshift, AWS S3, Supabase
Cloud & DevOps: AWS (EC2, S3, Lambda, CloudWatch, API Gateway), Docker, Kubernetes, Terraform, Git, CI/CD (GitHub Actions)
Big Data & Messaging: Apache Hadoop, Apache Spark, Apache Kafka, RabbitMQ

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 - August 2025**
Relevant Coursework: Machine Learning, Design Patterns, Database Systems, Design and Analysis of Algorithms, Operating Systems, Web development and programming, Distributed Systems, Systems Programming.