

Aswin Kumar J

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EDUCATION

University of Maryland, Baltimore County

MS in Information Systems, major in AI track

Courses: Management of Information Systems, Advanced Database Projects, Structured Program Analysis and Design, Deep Learning, and Information Extraction.

Baltimore, MD

08/2023 – present

SKILLS

Skills: Python3 | RUST | Microservices | Multithreading | PyTorch | TensorFlow | HuggingFace | Docker | ROS & ROS2 | OpenCV | LLM | Transformer | Kafka | API | HTML5 | CSS3 | Javascript | JSON | GIT | GitLab | SQL | MongoDB | Jupyter Notebook | Google Colab | VsCode | Shell | Microsoft Office Suite | CI/CD

WORK EXPERIENCE

Headstarter AI

SWE Fellow

Remote

07/2024 - Present

- Deployed RAG-trained Llama-3.1 8b model chatbot for Delta Airlines customer support system.
- Incorporated bonus features in the AI-powered customer support chatbot project by integrating multi-language support, feedback mechanism, and user authentication using Clerk.
- Collaborated with other team members to implement best practices in coding, design, and deployment using EC2, fostering a strong team-oriented environment.
- Successfully built and deployed a feature-rich pantry tracker app in Vercel, including functionalities like item addition, deletion, updating, and searching functionalities leveraging Next.js, React.js, and Firebase.

Skills: Python3, Next.js, React.js, AWS EC2, Bedrock, S3, LLM, RAG, LangChain, Firebase, MongoDB, Clerk, Stripe, Github, API, Vercel.

University of Maryland, Baltimore County

Research Assistant

Baltimore, MD

11/2023 - Present

- Developed projects using Python, ROS, and ROS2, enhancing the efficiency and robot missions of swarm robots with Boston Dynamics SPOT and Clearpath's Husky.
- Utilized OpenCV to capture images from video streams, integrating them with a locally running transformer-based GPT model to generate descriptive outputs, significantly improving image processing and interpretation capabilities.
- Integrated SPOT SDK and Garmin GPS module to navigate SPOT robots to a specific location, pioneering new navigation techniques that were innovative even for Boston Dynamics.
- Fine-tuned LLM3-codellama and instruct models on edge devices along with RASA NLU to create conversational chatbots that can generate Python code based on audio inputs, increasing efficiency by 35% by expanding functionality and context awareness through advanced prompt engineering and a custom wrapper function.

Skills: Python3, LLM, RASA, NLP, API, ROS, RAG, LangChain, Google gTTs, Git.

Vagus Technologies Inc

Senior Software Engineer

Trichy, India

07/2018 – 08/2023

An in-house Applicant Tracking System (ATS) is a software application used by end clients and human resources professionals to streamline and automate the recruitment and hiring process.

- Developed robust, scalable, and secured web applications for the applicant tracking system to ensure the continuity of business processes and client satisfaction.
- Designed and configured database and backend applications and programs contributing to operations and increasing the efficiency of the application by 38%.
- Consumed APIs while utilizing Python requests to read numerous JSON reports and file automatic bugs for intermittent bugs.
- Designed APIs and used Docker to load the data from the legacy project to the AWS cloud Cassandra database at the enhancement stage.

Skills: Python, AWS EC2, Cassandra, JSON, API, Docker, Kafka, HTML, CSS, Javascript, Git, SQL

Ahoy Systems Pvt Limited

Technical Associate

New Delhi, India

01/2017 – 06/2018

An IoT-based solution for the modern lifestyle including Automatic ATM Security, pH analysis reports Indian Government from various Sugar plants in India.

- Designed and developed a security system based on BeagleBone Black using various sensor data.
- Executed system to generate alerts to 3rd party security and maintenance team to take care of the local ATM.
- Programmed the cron jobs to execute the shell scripts to raise alerts on web portals.
- Integrated PTZ camera modules to IP networks and the main system to capture photos of the incidents in the plant.

Skills: Python, Embedded C, BeagleBone Black, GPIO.

PROJECT EXPERIENCE

[Named-Entity Recognition using DistilBERT dataset](#)

MD, US

Collaborated with a team of 4 members to create a model that can recognize the named entities from the DistilBERT dataset from Hugging Face as part of the coursework for Information Extraction.

03/2024 - 05/2024

[Popularity prediction of songs in Spotify](#)

MD, US

Collaborated with a team of 4 members to create an ensemble model that predicts the popularity of the songs based on features like danceability, tempo, energy and few others.

03/2024 - 05/2024

[Online Shopping System using PL/SQL](#)

MD, US

Collaborated as a team and developed an online shopping system using PL/SQL as part of the course curriculum for Advanced DB projects.

11/2023 - 12/2023

[Red Hen Labs - Google Summer of Codes' 16](#)

Remote, US

Forced Alignment of words in Real-time News Channels.

03/2016 - 07/2016

CERTIFICATIONS

- Oracle Cloud Infrastructure 2024 Generative AI Professional
- AWS Certified Cloud Practitioner

07/2024

08/2024