

Aswin Kumar J

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EDUCATION

University of Maryland, Baltimore County

MS in Information Systems, major in AI track

Baltimore, MD

08/2023 – present

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

SKILLS

Skills: Python 2.6/2.7/3.0/3.3/3.4/3.6/3.7 | RUST | Microservices | Multithreading | PyTorch | TensorFlow | HuggingFace | Docker | Kubernetes | ROS & ROS2 | OpenCV | Ollama3 | Kafka | LLM | API | HTML5 | CSS3 | Javascript | JSON | GIT | GitLab | SQL | MongoDB | Jupyter Notebook | Google Colab | VsCode | Shell | Microsoft Office Suite | CI/CD

WORK EXPERIENCE

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.

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.

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.

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

[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

Forced Alignment of words in Real-time News Channels.

Remote, US

03/2016 – 07/2016

CERTIFICATIONS - OCI Generative AI (Pursuing)