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EDUCATION

B.Tech in IT

2020 - 2023

Muthayammal Engineering College,
Namakkal, TN.

SKILLS

- Skilled in **Python**, and **JAVA** for backend development with **Django** and **Flask**. Proficient in **Node.js**, **HTML**, and **CSS** for adaptive and responsive UIs.
- Utilizes **AI**, **ML**, **DL**, and **Computer Vision** technologies for advanced applications. Experienced with **Azure Databricks** and **SQL** for efficient data storage.
- Develops APIs with **FastAPI** and **RestAPI** for seamless communication, integrating **Python automation** for streamlined processes. Proficient in deploying applications on **Ubuntu** and **Windows**, employing **Docker** for efficient containerization.
- Utilizes **PyCharm** and **VS Code** for development. Excels in **Git** for efficient collaboration and code management. Proficient with **PowerShell automation**, leveraging its capabilities for task automation and enhancing overall workflow efficiency.
- Expert in **Git** for efficient collaboration and code management. Familiar with **DeepStream SDK** for AI-powered video analytics.
- Proficient in **CPU** and **GPU** acceleration, specializing in **CUDA**, **FP16**, and **INT8** optimization for Intel and NVIDIA architectures.
- Skilled in optimizing inference processes for Intel and NVIDIA platforms, employing frameworks like **TensorFlow**, **Eagle Eye LPR**, **Keras**, and **OpenCV** for ML and computer vision. Additionally, adept at implementing **Python automation** for task automation, improving overall workflow efficiency.

Pasupathikumar S

Software Engineer

With six months of hands-on experience, I specialize in AI and computer vision, particularly in face recognition using Deepface and ResNetV2. Proficient in Full Stack Web Development, I gained foundational knowledge during an internship, excelling in Python, Django, Flask, HTML, CSS, and JS. Additionally, I possess strong skills in MySQL for efficient database management. I currently use Python for AI model creation and Azure Databricks, Azure Data Factory, big data solutions for ETL processes, and streamlined database management via SQL queries.

WORK EXPERIENCE

Software Engineer Intern

06/2023 - still

Nextbrain Info Tech Solutions | Bangalore

Currently immersed in AI and computer vision projects centered on face recognition, I utilize models like Deepface and ResNetV2. My responsibilities include daily creation and maintenance of crucial face-recognized data. The AI model is crafted using Python with OpenCV for face encoding and comparison methods. SQL is employed for project database creation and maintenance on Azure clusters.

PROJECTS

Attendance Management System using Computer Vision - Working with Nextbrain python developer team.

My Role: Python Backend Developer and Database Management

- In this project, I assumed the role of a backend developer with a focus on database maintenance. Leveraging the ResNetV2 architecture, I achieved a face recognition accuracy ranging from 80% to 90%. Furthermore,
- I developed AI & DS code to detect age, gender, and emotion, aiding in the initial identification of both known and unknown individuals. After detecting individuals and creating event data with unique ID numbers, I initially posted the person detection events.
- Following the capture of faces within the same person, I identified gender, age, and emotions, updating this information in the posted API events. Concurrently, staff members were identified using the same captured faces, and additional API events were posted. SQL was utilized to create and maintain the backend database in Azure Databricks.

Natural Disaster Detection using AI - IBM Nalayathiran Project - Developed in my college days.

My Role: Team Lead (TL) and Python Developer

- During my college days, I collaborated with my final year project team to develop a project submitted to IBM Nalayathiran. This initiative aimed to detect natural disasters, including Wildfires, Earthquakes, and Tsunamis, utilizing computer vision and image processing techniques.
- Upon detecting a disaster, the system triggers alerts to the designated emergency team. The detection process employed the Yolo V7 model, while frontend development utilized HTML, CSS, and JS.
- Backend functionality was implemented in Python, and to establish connectivity between the frontend, backend, and database, the Flask framework was employed.

ACCOLADES

- IEEE Madras Section for Student Training Programme on "Machine Learning Using Python" - 2nd Price in Quiz Competition.
- Project Team Lead in "IBM NalaiyaThiran project"

INTERESTED AREAS

- Python Developer
- Data Engineer
- AI/ML Engineer
- API Developer
- Full Stack Developer

PERSONAL SKILLS

- Adaptability
- Time Optimization
- Empathy
- Problem Solving
- Team Work
- Organizational Skills

Cyber Threat Detection based on the Data Reliability of AI - Developed in my college days.

My Role: Team Lead (TL) and Python Developer

- During my final year, I led a project submitted as the main project at my college. This initiative focused on detecting missing and spam data in datasets while concurrently safeguarding against cyber attacks. The initial step involved transforming the provided data into an Intrusion Detection System (IDS) dataset.
- Subsequently, this IDS dataset was employed in the malware detection process, utilizing a deep-learning neural Network. The malware detection system identified viruses, spyware, ransomware, etc. Python was utilized to construct the Deep Learning model, while HTML and CSS were employed for frontend development.
- The Flask framework was instrumental in creating the API and establishing connectivity between the front end, back end, and database. The project concluded by presenting insights into the number of missing data, mismatched data, and detected viruses.

COURSES

- **AZ-900 Azure Cloud Fundamentals in Udemy.**
- **Fourth Industrial Revolution (4.0) and Industrial IOT Completed in NPTEL.**
- **jAVA J2EE Course Completed in Wipro TalentNext.**

PRESENTATIONS

- **Revolution of Industry and Introduction to Industry 4.0 organized by Knowledge Institute, Kakkaveri, Tamil Nadu.**
- **Quantum Computing organized by M.Kumaraswamy College of Engineering, Karur, Tamil Nadu.**
- **DevOps Fundamentals organized by Muthayammal Engineering College, Namakkal, Tamil Nadu.**

PUBLICATIONS

- **Dr.D.Punerselvam, S.Pasupathikumar, S.Yaser Arabth, S.Yuvaraj, C.Devaganeshvara, "Cyber Threat Detection based on the Data Reliability of AI" in SCOPUS.**

SOCIAL MEDIA LINK

- **LinkedIn:** <https://www.linkedin.com/in/pasupathikumar-s-72b8b7208/>
- **GitHub:** <https://github.com/Pasupathikumar>