Pasupathikumar S

Software / Automation Engineer

With six months of hands-on AI and computer vision, particularly face recognition using Deepface and ResNetV2, I've been learning about DevOps to make development and deployment smoother. I'm good at Full Stack Web Development, especially Python, Django, Flask, HTML, CSS, and JS, and I'm skilled in MySQL for managing databases efficiently. Currently, I'm integrating DevOps into my workflow, using Git for version control, Docker for containerization, and Jenkins for continuous integration. Also, I use Azure Databricks, Azure Data Factory, and big data solutions for ETL processes, ensuring AI models are deployed and maintained seamlessly, along with managing databases efficiently using SQL queries .

CONTACT ME

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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.

WORK EXPERIENCE

Software / Automation Engineer Internship 06/2023 - 12/2023

Nextbrain Info Tech Solutions | Bangalore

In my current role, I am deeply engaged in AI and computer vision initiatives focused on face recognition, employing models such as Deepface and ResNetV2. My daily tasks involve the continuous development and upkeep of essential face-recognized data. The AI model, implemented in Python, utilizes OpenCV for face encoding and comparison techniques. For efficient project database creation and maintenance, SQL is employed, leveraging Azure clusters. Notably, I have implemented automatic updates for the AI model and streamlined the process of collecting the latest dataset automatically.

PROJECTS

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

My Role: Python Backend Developer and Database Management

- As a backend developer focused on database maintenance, I used the ResNetV2 architecture to achieve 80-90% face recognition accuracy in an attendance system.
- I automated employee dataset downloads and implemented automatic attendance updates. I also developed AI code for age, gender, and emotion detection, facilitating initial identification.
- Using SQL in Azure Databricks, I created and maintained the backend database, posting person detection events and updating information in API events for recognized staff members.

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

My Role: Python Backend Developer and Database Management

- 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.

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

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**