Suryakumar P

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Objective

A motivated and passionate **Software Development Engineer** with hands-on experience in building **scalable applications**, **cloud-based systems**, and **AI-powered solutions**. Skilled in a variety of **programming languages** (**Python, Java, C++**), **cloud technologies** (**Microsoft Azure,AWS**), and modern frameworks (**ReactJS, Node.js**). Eager to apply my technical expertise, problem-solving abilities, and commitment to innovation in contributing to the development of impactful software solutions.

Technologies

Programming Languages: Python, Java, C++,Ruby

Web Development & Frameworks: HTML, CSS, JavaScript, ReactJS, Node.js, Django

Cloud & Development Tools: Microsoft Azure, AWS, GCP, Docker, Grafana, Prometheus

UI/UX & Mobile Development: Figma, Java, XML (Android Development)

Game Development: Unity Game Engine

Databases & Version Control: MySQL, MongoDB, Git, GitHub

Projects

IoT Based Pulse Oximeter Monitoring and Alerting System
Technologies Used: MAX30102, ESP32, MQTT, Grafana, Twilio
Developed an **IoT-based pulse oximeter system** using **MAX30102** sensor and **ESP32** to monitor oxygen saturation levels. Integrated **MQTT** for data transmission, **Grafana** for real-time monitoring, and **Twilio** for sending alerts in case of abnormal readings.

Adventure Maze Game using Unity
Technologies Used: Unity Game Engine, C#
Developed a 3D dark adventure game using **Unity Game Engine**. Designed AI-based maze generation and interactive gameplay to create an immersive and challenging user experience.

Personal Diet Recommendation Chatbot with LM Studio and MongoDB
Technologies Used: LM Studio, MongoDB, LangChain, Llama
Built a **diet recommendation chatbot** for fitness enthusiasts using **MongoDB** to store Indian food data with nutrient facts. Leveraged **LangChain** and **Llama** via **LM Studio** to offer personalized diet suggestions based on user preferences.

Intruder Detection and Alerting System
Technologies Used: Azure Face API, OpenCV, Twilio, Python
Built an intruder detection system that detects and alerts the entry of unauthorised person in the campus using **Azure Face API** and **OpenCV** for image processing. Integrated **Twilio** for generating automated security reports.

Education

Vellore Institute of Technology, Chennai, M.Tech (Integrated) Software Engineering   Sept 2021 – Present

- CGPA: 8.73/10.0
- **Coursework:** Software Engineering, Agile, Project Management, Embedded Systems, Marketing and CRM.

Kshatriya Vidhyasala Matriculation Higher Secondary School   Sept 2019 – July 2021

- SSLC:89.6%, HSC (PCM with Computer Science): 92.3%
- **Coursework:** Computer Science,C++,SQL,Python.

Certifications

- **Microsoft Certified: Azure AI Fundamentals (AI-900)**   Issued by Microsoft, 2023
  Link: https://bit.ly/SuryakumarAzureAI/

- **Google Cloud Arcade**   Issued by Google Cloud, Qwiklabs, 2022 and 2023
  Link: https://bit.ly/SuryakumarGCP/

- **Technical Support Fundamentals**   Issued by Coursera and Google, 2021
  Link: https://bit.ly/SuryakumarCourseraTSF/

Achievements and Awards

- **Runners-Up, TechnoVIT Hackathon 2024**
  Designed "VOLT," a smart home electricity monitoring app. Won a cash prize and certificate.

- **Finalist, International UI/UX Competition 2024**
  Ranked among the top 20 out of 75 teams from 6 countries at Universiti Putra Malaysia and Carlo Rino.

- **Finalist, VITISH 2024 & SIH 2024**
  Ranked 21st out of 548 teams, earned wild card entry for Startup Support & Venture scheme.

- **Runners-Up, Krypthon Hackathon 2023**
  Designed "Xpense," an app for managing payments and NFC cards. Won cash prize Rs. 50,000 and a TWS headset.

- **2nd Runners-Up, Sustainathon 2023**
  Presented an idea on "Decentralised Cloud Storage". Won cash prize and certificate.

Publications and Patents

- **Parallel Implementation of Decision Tree for Online Fraud Detection using OpenMP, MPI, and CUDA**
  Presented in The 2nd IEEE International Conference on "Innovations in High-Speed Communication and Signal Processing" (IHCSP 2024).

- **A Device and Method for Facilitating Personal Security of a User**
  Published(Application Number: 202441060793), 2024.

- **RFID Handshake - Seamless Communication Device**
  Patent Publication under Process (Design and Utility).

Experience

- **Frontend Web Dev Intern**
  Aerobiosys Innovations Private Limited, Chennai, Tamil Nadu, India
  Nov 2023 – Dec 2023
  - Revamped UI for a ventilator system, improving aesthetics and user experience.
  - Developed a website to streamline ventilator connectivity and create a user-friendly dashboard.

- **Machine Learning Intern**
  Nurtem (Remote)
  Dec 2024 – Jan 2025
  - Developed a Proof of Concept (PoC) for an education chatbot using **LangChain** and **LM Studio**.

Volunteering

- **Microsoft Learn Student Ambassador (MLSA) - Beta**
  Jan 2024 – Present
  - Hosted multiple online events, spoke at 2-3 offline events, and delivered seminars on Azure.
  - Built and managed a global community of 1.7K members with peer MLSAs.