ASHWIN SAI VAGU

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SKILLS:

Languages:	Python, Java, JavaScript, C++, Typescript
Database Technologies:	NoSQL, MySQL, PostgreSQL, SQL
Frameworks:	Flask, Angular, Vue Js, Jest.js, Flutter, React JS, Meteor JS
Tools:	Figma, Chrome Debugger, Adobe XD, React Developer Tools
Cloud Technologies:	Google Cloud Platform, AWS
Soft Skills:	Communication, Problem-Solving, Adaptability, Teamwork, Leadership, Time Management
Other:	HTML/CSS, Knowledge in Web Security, MS office, Photoshop

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TECHNICAL CERTIFICATIONS:

- Google Associate Cloud Engineer **2021**
- Oracle Certified Associate, Java SE 8 Programmer **2019**
- NPTEL Python Professional from IIT Madras **2019**
- NPTEL Soft Computing from IIT Bombay **2019**
- NPTEL Social Networks from IIT Madras **2019**
- SONET Certifications from KMIT: Web Security, Full Stack, Unity Courses **2019**

PROFESSIONAL EXPERIENCE:

Development Intern - Medical Informatics Engineering, Fort Wayne, IN, USA   2025 - Present

- Developing a full-stack mobile application that enables patients to securely access their EHR/EMR medical data, integrating SMART on FHIR authentication with OAuth 2.0 for seamless retrieval of FHIR-based health records.
- Designed and built the first-phase prototype, reducing the average time required for users to access their EHR data by 5 minutes post-testing, improving efficiency and user experience.
- Implemented the mobile application's full-stack architecture using React, Meteor.js, Node.js, and Python for data processing, ensuring optimal performance and security. Also integrated the above mentioned authentication into this application.
- Managed data integration within the application, leveraging MIE's WebChart EHR system for efficient handling and retrieval of patient health records.

Software Engineer - Factset Research Systems Inc., Hyderabad, India   2022 - 2023

- Developed an application called "Internal Research Notes," which facilitated the sharing of financial market observations and forecasts.
- Transitioned the front end build tool used in this product from webpack 4 to Vite, which resulted in an 86% reduction of build time – a shift from around 15 minutes to a mere 2 minutes.
- Implemented a streamlined functionality that facilitated linking specific contacts to financial records, leading to an 8% increase in record submissions.
- Worked on optimizing the API of a specific component, resulting in a 5% enhancement of the overall performance.
- Created key full-stack components for the application using Vue.js, Vuex.js, dotnet, and C#, integrating PostgreSQL and AWS for data management and employing Swagger for API testing.
- Oversaw streamlined database management and application enhancements, ensuring robust alignment with user needs.

Associate Data Engineer - SpringML Inc., Hyderabad, India   2021 - 2022

- Developed healthcare applications addressing COVID-19 vaccination for Florida's state health department and an academic platform for the University of Minnesota, Rochester.
- Implemented an automated rewarding system on the aforementioned University of Minnesota platform using cloud functions in GCP. This implementation led to a reduction of rewarding errors by at least 10%.
- As part of the same project, Google's Identity Provider was integrated to enable single sign-on functionality, incorporating a SAML-based user authentication.
- The COVID-19 vaccine registration application for Florida facilitated vaccinations for a minimum of 70,000 citizens.
- Orchestrated user job handling with Python on Google Cloud Platform and engineered an efficient CI/CD pipeline with App Engine and Cloud Build, optimizing development workflows.
- Leveraged Angular 11, HTML/CSS, Flask, and Python for the development of both projects, complemented by Figma for user interface prototyping. NoSQL and PostgreSQL were used for data handling in these projects.

Software Development Intern - Virtusa Corporation, Hyderabad, India   2019 - 2020

- Built a healthcare application named "Dakshas Digital," aimed at effectively managing hospital activities. The implementation of this application led to the seamless optimization of day-to-day hospital operations, culminating in an average increase of 25% in the number of daily doctor appointments.
- Developed a mobile application for the existing 'V-hub' company portal, tailored for in-house IT resource utilization. This development significantly enhanced user interaction, leading to a near doubling of the portal's activity.
- Contributed in the full-stack web development, user interface design and maintenance of these applications.
- Worked with React JS, HTML/CSS, Redux, Bootstrap, Python, Node.js, Express.js, Flutter, and Dart. Authentication and data storage were managed through GCP Firebase integration in these projects.

PROJECTS:

Chatbot for Hospital Website (Retrieval-Augmented Generation(RAG), OCR text reading)
- Integrated RAG to allow the chatbot to retrieve and generate accurate medical information of a hospital from large sets of pdfs, providing users with contextually relevant responses.
- Engineered Optical Character Recognition (OCR) using Tesseract to extract and process text from scanned medical forms and reports, streamlining document processing workflows which the RAG could use.
- Utilized AWS Bedrock to host and manage the Large Language Model (LLM) chatbot, enabling real-time, scalable user interactions and enhancing overall user experience. Used Streamlit for the user interface of the chatbot.

Student Performance Predictor (Artificial Neural Networks(ANN), Snowflake Data Warehouse)
- Constructed an Artificial Neural Network (ANN) model to forecast student academic performance based on historical data, delivering more accurate and actionable predictions.
- Utilized Snowflake Data Warehouse to store input data (student details and grades) and save output predictions, ensuring scalable and efficient data handling. Initial student data was stored in an AWS S3 bucket and then ingested into Snowflake Data Warehouse.

EDUCATION:

Master's of Science in Computer Science,   **2023 - 2025**
Purdue University, Fort Wayne Campus
(Relevant Coursework: Software Engineering, Database Design, Data Structures, Web Development)

Bachelor's of Technology in Computer Science and Engineering,   **2016 - 2020**
Keshav Memorial Institute of Technology - affiliated to Jawaharlal Nehru
Technological University, Hyderabad
(Relevant Coursework: Operating Systems, Object-Oriented Programming, Computer Networks, Machine Learning)