SHARANYA GOLIKOPPA SATHYANARAYANA

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WORK EXPERIENCE

Working student- Full Stack Developer — Stuttgart, DE
DÜRR DENTAL SE — February 2024 – Present

- Developed an interactive **employee card game** for the company's directory webpage, which is used by 250+ employees.
- Created a single-page React **dashboard** for our **Home Office Tool** with multiple tabs to display dynamic employee data including work schedules, taxation details, and HR insights. Added KPI visualizations, filtering, conditional formatting, and data export functionality.
- Designed **Kanban boards** for inventory management, integrating real-time data from the IFS database displayed across 30 production screens. Enabled multi-branch inventory visibility and redirection via dynamic URL parameters. Created APIs using Novacura workflows and validated them with Postman.
- Created **custom logical units** in the IFS database to support advanced data integration and retrieval.
- Worked in an Agile team environment, managing tasks through **Kanban boards, scrum** and weekly sprints and managed **version control** with Git and GitHub, following structured CI/CD pipelines to ensure smooth code deployment.

Technologies/Softwares used: **JavaScript, React.js, HTML, CSS3, Tailwind, PL/SQL, PHP, GitHub, Git Bash, IFS ERP, Novacura, Figma, Postman, Linux**.

RESEARCH ASSISTANT — Stuttgart, DE
UNIVERSITÄT STUTTGART — July 2023 – November 2023

- Developed a webpage **Additive Wiki,** MediaWiki-based knowledge platform to centralize additive manufacturing data. Implemented a responsive front end using HTML, CSS, and JavaScript, configured backend settings with PHP, and managed databases with MySQL. Hosted the system using FileZilla Client (FTP).
- Developed a **web interface for a 3D laser cutting machine**. Designed a secure, web interface on a Odroid system, to control a 3D laser printer with integrated live camera feeds. Developed user authentication and machine controls from C++ UDP commands, using Flask (Python) to establish a backend server for command routing, and HTML, CSS, and JavaScript for the frontend.

Technologies/Softwares used: **MediaWiki, PHP, HTML, CSS, Python (Flask), C++, Linux, FileZilla (FTP)**

EDUCATION

UNIVERSITÄT STUTTGART — Stuttgart, DE
Masters in Science (M.Sc) "Information Technology" — October 2022- Present

Relevant Coursework: Information Visualization Lab, **Data Warehousing, Data Mining and OLAP, Machine Learning, IT service Management**

RNS INSTITUTE OF TECHNOLOGY — Bangalore, IN
Bachelors in Engineering — August 2018 - July 2022
Major in Electronics and Instrumentation; Cumulative GPA: 8.9/10

Relevant Coursework: Java, Python, Neural networks, Embedded systems, ARM Microcontroller

PROJECTS

Development of a Feedback Loop to Improve Computation Offloading Decision-Making in Distributed Cloud/Edge Networks *(Master's Thesis – Ongoing)*

- Designing a dynamic offloading system that enables vehicles to delegate computational tasks to nearby edge or cloud infrastructure, minimizing latency and energy consumption.
- Implementing a reinforcement learning-based decision-making module that selects optimal offloading targets using real-time metrics such as signal strength, processing delays, and bandwidth availability.
- Building a feedback loop that continuously adapts the offloading strategy to optimize system performance in dynamic network conditions.

  Tech Stack: Python, Reinforcement Learning, Pandas, Matplotlib, Docker, Kubernetes, Bash, Ubuntu, Jupyter Notebook

Fullstack Web Application Development with MERN Stack

- Developed a single-page application using the MERN stack, featuring dynamic user authentication, data management, and secure access control.
- Implemented a structured user and content management system, enabling users to create, view, edit, and delete location-based posts with image uploads.
- Deployed the application using modern hosting strategies, with the frontend on Firebase Hosting and the backend REST API on Heroku for scalability and reliability.

  Tech Stack: **React.js, Node.js, Express.js, MongoDB, Firebase, JavaScript, HTML, CSS**

Exploratory Data Visualization of New York Housing Market

- Conducted a detailed analysis of New York housing market data sourced from Kaggle, working with 5,000+ rows and 17 columns to exploring property investment potential through insightful visualizations.
- Pre-processed raw data in Python to clean and structure it, ensuring accurate representation of variables such as price and location.
- Designed and implemented four distinct visualizations using svelte.js- stacked bar charts, bar charts, geospatial maps, and tree maps, effectively illustrating trends and relationships in housing data.

  Tech Stack: Svelte.js, Python, Jupyter Notebook, SQLite, Matplotlib, Seaborn, Plotly, Pandas, GeoPandas, Node.js, HTML, CSS

AI Planning Approaches for Enhancing Intelligent Building Systems (Seminar Paper)

- Conducted a systematic literature review of 20+ research papers on AI-driven planning techniques for intelligent buildings, focusing on IoT integration, automation, and real-time decision-making.
- Analyzed temporal planning, multi-agent systems, and hierarchical task networks to address key challenges such as fault tolerance, scalability, and energy optimization.
- Evaluated AI frameworks for enhancing occupant comfort, adaptive energy management, and autonomous building operations.

LANGUAGES

English: C1
German: A2