

Suraj B M

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Skills

- **Programming Languages:** Python (Proficient), C/C++ (Intermediate), Java (Intermediate), Rust (Moderate), Go (Moderate), R (Moderate)
- **Web Development:** TypeScript, Bun, Next, T3 Stack, MERN Stack, PostgreSQL, TailwindCSS
- **Big Data:** hadoop, spark, kafka, pig, hive, hbase, MapReduce
- **AI/ML and Data Science:** scikit-learn, numpy, pandas
- **Other Languages:** Bash, Dockerfile, Markdown, Windows Batch, Regex
- **Tools:** Jupyter Notebook, Git, MS Office, Neovim, Windows Registry

Education

Grade 12

PUC Board (2022)

Narayana PU College

95%

B. Tech in CSE (AI&ML)

2022 - 2026

PES University

7 CGPA

Experience

TwoSpoon.ai

Fullstack Web Development Intern

Startup

Jul 2024

- Helped build a website for WLDD, a meme marketing agency, to help with day-to-day activities
- Consisted of building a highly responsive UI, role-based authorization, database CRUD, building complex relationships between tables and writing detailed API routes

Pragma

Founder and Chief Technical Officer

Global Community

Feb 2024 - Present

- Helping build a global community for developers and designers around the world
- Supervising all technical activities and open-source projects created by Pragma

Research

Dynamic Crowd Management through Potential Field-Based Simulations

Yet to be published in Smart Grid and Smart Cities (ICSGSC) '24

Developed an advanced crowd management model using Python and Matplotlib:

- Simulated crowd density with variable point distributions on a segmented grid
- Integrated weighted regions to represent areas of attraction and avoidance
- Categorized spatial zones based on density levels
- Visualized crowd dynamics using quiver plots overlaid on heat maps
- Demonstrated potential for urban planning, event management, and public safety applications

Projects

pesu-tix (Open Source)

T3 Stack

- An event ticketing system tailored for PESU, integrating ID card verification for secure event access
- Involves role-based authentication, club and event CRUD, one-click registration to events and checking in to events just by scanning the barcode behind student ID cards

docker-hadoop

bash, Dockerfile

- A minified Docker image built for both AMD and ARM CPU architectures, based on Ubuntu,
- Contains pre installed tools required for Big Data, such as hadoop, pig, spark etc, in their compatible versions as per as the syllabus

oracle (Open Source)

Bun, Discord.js

- A Discord bot made for Pragma's official Discord server, involving moderator commands, onboarding flow, event-based interaction and Oracle RAG
- Serves as a foundation for a plan to build a future project involving creating a template for a discord bot, and a CLI to manage it

safe (Open Source)

React, Rust

- A desktop app to share sensitive data with others using asymmetric key encryption (RSA), built using Rust to make it faster and secure
- Involves adding public keys of contacts, encrypting files or text, and decrypting incoming messages using one's private key

pesupedia

Vitepress

- A documentation-like comprehensive guide about PES University, that aims to solve frequently asked questions and guide freshers across PES University
- Includes information about academics, campus structure, important locations, clubs and FAQs

Voluntary Experience

Encode AI

Founding Member and Web Development Head

PES University

Jan 2024 - Present

- Leader of club website development team

Linux Legion

Community Manager and Web Development Head

PES University

Jan 2024 - Present

- Conducted workshops about Linux and tools used in Linux
- Leader of community website development team

Jnaanada

Founding Member and Web Development Head

PES University

Feb 2024 - Present

- Leader of club website development team
- Helped build technologies to promote usage of Sanskritam

Research et al

Technical Head

PES University

Aug 2024 - Present

- Overseeing all technical activities that take part in the club, including club website development, building technologies for events, creating blogs and overseeing the building of LLMs

HackerSpace

Founding Member and Web Development Head

PES University

Aug 2023 - Aug 2024

- Mentored, created and contributed to various open-source projects under Hackerspace

Hobbies and Interests

- **Languages known:** English, Kannada, Hindi, Telugu
- **Reading:** Fiction, Mystery, Manga, Romance, Sci-fi, Documentaries
- **UNIX Ricing:** Working with various distributions of Linux and desktop managers, and ricing them to give them unique looks