

# Pavan Kumar

Software Developer

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## SUMMARY

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Software Developer skilled in Python, JavaScript, and Rust, focused on system design and performance optimization.

## EXPERIENCE

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### Software Developer Intern, Qualyval

Mar 2025 - Present

- Built a WhatsApp automation tool using *Chromium Oxide*, enabling seamless browser automation in *Rust*.
- Built high-performance REST APIs using *Actix-web (Rust)*, focusing on speed, safety, and scalability.
- Utilized *LMDB* for ultra-fast data access, optimizing read/write operations for low-latency performance.

### Software Developer Intern, CypherSage

Dec 2024 - Mar 2025

- Independently rebuilt the entire front-end for a client, optimizing for *SEO* and performance.
- Developed a server-rendered web application using *Node.js* and *Express*.
- Designed a responsive and lightweight UI with clean, maintainable code.
- Prioritized speed and search engine visibility over JavaScript-heavy frameworks.
- My Work: <https://jntorganisation.com/>

## PROJECTS

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### Audio Copy-Move Forgery Detection, [Link](#)

- Developed a deep learning model to detect forged audio by identifying repeated sections within the same file.
- Transformed audio into spectrograms, extracted keypoints, and applied spiral pattern extraction to construct graph-based representations that preserve spatial and temporal features.
- Trained a CNN model on structured graph embeddings, enabling precise detection of manipulated audio by distinguishing forged segments from original content.

### Fitness Application, [Link](#)

- Built out of a personal passion for fitness, creating a platform that fits my own needs where existing solutions fell short.
- Designed a scalable and intuitive backend to track workouts, nutrition, and progress dynamically.
- Focused on a seamless and personalized experience, with front-end development planned for the next phase.

## SKILLS

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Programming	: Python, TypeScript, Rust, Go, C, SQL
Web Development	: Django, Flask, Next.js, ReactJS, Node, Express
Tools I Use	: Kitty, Git, Tmux, Vscode, Gimp, Ubuntu
Data Analytics/ML	: NumPy, Matplotlib, Pandas, Seaborn

## AWARDS

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### Hackathon on Generative AI-RAG Framework for Info Retrieval

- Awarded 2nd Place for developing a Course Assistant chatbot using Flowise, leveraging NLP and conversational AI to provide personalized domain recommendations and enhance user engagement.

## EDUCATION

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AMCET, Vellore - BE, Computer Science - GPA: 8.44  
National Higher Secondary School - HSC, - GPA: 8.65  
National Higher Secondary School - SSLC, - GPA: 8.3

Oct 2021 - Present