

# PRANAV SWAROOP S.

Bengaluru, Karnataka | pranavswaroop08@gmail.com | [linkedin.com/in/pranav-swaroop-ab0095374/](https://www.linkedin.com/in/pranav-swaroop-ab0095374/) | [github.com/pranavswaroop08](https://github.com/pranavswaroop08)

## PROFESSIONAL SUMMARY

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Computer Science sophomore and software engineer focused on building scalable, automated backend systems and intelligent AI-powered products. Experienced in developing robust API-driven infrastructures, low-latency stream data pipelines, and intelligent orchestration workflows. Proven capability to translate high-frequency data matrices into high-impact visual intelligence and enterprise solutions.

## TECHNICAL SKILLS

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**Languages:** Python, Java, C/C++, SQL, HTML/CSS

**AI/ML & Automation:** LLM Tools, Heterogeneous AI Architectures, n8n Automation Engine, Workflow Design

**Backend & Tools:** API Integration, Dynamic Pipelines, Git, GitHub, Relational Databases, Webhooks

**Domain Knowledge:** Data Orchestration, Stream Processing, Systems Programming, Architecture Optimization

## PROJECTS

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### **Pitline / Motorsport Analytics & Telemetry Platform**

Python, Real-time Data

- Engineered a high-performance analytical pipeline to ingest, parse, and structure high-frequency sim racing telemetry data streams.
- Designed complex data-driven lap comparison and granular performance visualization toolsets to identify microsecond bottlenecks.
- Optimized time-series back-end data processing mechanics to systematically clear computational latencies during heavy active sessions.

### **Reddit Trend Intelligence Bot / Automation & NLP Data Pipeline**

n8n, API Orchestration

- Architected an end-to-end multi-threaded data harvesting architecture using n8n to scrape and isolate viral subreddits dynamically.
- Integrated production-grade language models to run parallel semantic evaluations, generating automated early-stage trending signals.
- Streamlined output target delivery patterns to structured databases, reducing systemic manual operational overheads down to zero.

### **Trading Analysis Syndicate / High-Throughput Market Ingestion Engine**

Python, Financial APIs

- Built a modular, decoupled algorithmic evaluation matrix in Python optimized for real-time financial stream and historical database tracking.
- Implemented customized mathematical trend models and technical indicator algorithms to extract highly actionable predictive market signals.
- Structured cleanly isolated interface blocks ensuring highly scalable, plug-and-play integrations with new external financial APIs.

### **n8n Automation Workflows / Enterprise API System Integration**

Workflow Engineering

- Designed and deployed robust automation architectures maps optimizing complex data field synchronizations across distinct platforms.
- Eliminated intensive pipeline overheads by engineering intelligent webhook translation blocks mapping diverse dynamic JSON payloads.

### **Fitness Tracker / Responsive Performance Metrics Web Application**

Full-Stack Web

- Developed an interactive full-stack application configured to persistently track, capture, and render intricate client biometric records.
- Designed normalized SQL relational databases containing deep indices to ensure lightning-fast operations for progressive entry histories.

## RESEARCH

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### Secure Cloud-Based Proactive Phishing Detection | *Lead Researcher*

AI Fusion, Cyber Security

- Developed a robust proactive security model mining live Certificate Transparency (CT) Log Streams to detect novel malicious infrastructure.
- Engineered an AI fusion system orchestrating heterogeneous neural models to analyze threat metrics from real-time domain registries.
- Optimized feature parsing algorithms to block complex, targeted phishing attacks before public global blocklists register signature flags.

## INTERNSHIP

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### Emertxe Information Technologies | *Software Engineering Intern*

Bengaluru | 4 Weeks

- Completed an intensive industrial technical program concentrating on production-level C/C++ paradigms and system architecture constraints.
- Programmed micro-optimized algorithms directly sharpening core mastery over complex memory spaces, pointer safety, and data structure mechanics.

## LEADERSHIP & ACTIVITIES

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### Google Gemini Student Ambassador Program | *Shortlisted Candidate*

Technical Evangelism

- Advanced successfully through rigorous evaluation phases down to the final multi-stage technical screening and developer showcase tracks.
- Evangelized modern machine learning tools locally, formulating workshops linking native developer practices with programmatic LLM APIs.

### PES University Varsity Basketball Team | *Core Student-Athlete*

Athletic Leadership

- Selected to defend university ranks across elite state-level tournaments; managed 10+ hours of physical training alongside intense engineering loads.
  - Applied analytical processing strategies to basketball metrics, establishing optimized data tracking patterns to trace structural squad plays.
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