P V Jayaraman
Software Developer | Systems & Real-Time Applications
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PROFESSIONAL SUMMARY:

High-performance Software Developer specializing in real-time systems and AI architecture. Proven ability to engineer complex, optimized solutions from scratch ranging from **custom C-based language interpreters** to **AI orchestrators** with persistent contextual memory. Expertise includes optimizing low-latency communication via **WebSockets & WebRTC** and architecting scalable backends using **FastAPI** and **Node.js**.

EDUCATION:

- **Bachelor of Science in Computer Science | CGPA: 8.56 / 10.0**
  Expected Graduation: 2027

TECHNICAL SKILLS:

- **Languages:** JavaScript (ES6+), TypeScript, Python, C++, C, SQL
- **Frontend:** React.js, React Native, Three.js, HTML5, CSS3
- **Backend:** Node.js, Express.js, FastAPI, REST APIs
- **Databases & Auth:** MongoDB, MySQL, JWT Authentication
- **Real-Time & Networking:** WebSockets (Socket.io), WebRTC, Push Notifications
- **AI/ML:** Intent Classification, Contextual Memory Systems, AI-Centered Architecture
- **Developer Tools:** Git, GitHub, Postman, Netlify, Render, MongoDB Compass

KEY PROJECTS:

Jarvis - Personal AI Assistant (Android and Web):

Engineered a **production-grade AI orchestrator** featuring a **custom Python intent-classifier** (built from scratch) and a MongoDB-backed contextual memory system. Integrated **JWT-secured REST APIs** and automated Android triggers to bridge the gap between web-based processing and real-time mobile execution.

Tech: React Native, React, Three.js, Node.js, Express, MongoDB, TypeScript, Python, JWT, Bcrypt

EdtechAI - Intelligent Learning Ecosystem (SIH Project):

Developed an **AI-driven education platform** for **SIH** that automatically transforms YouTube URLs into structured lessons with generated summaries and quizzes. Engineered **role-based analytics dashboards** to visualize granular performance metrics, integrating a **context-aware AI tutor** for real-time doubt resolution.

Tech: React, Python, FastAPI, MongoDB, Generative AI, JWT, Bcrypt

Exam Conduction Platform (Deployed):

Architected a production-grade testing platform on personal infrastructure, utilized by 5**0+ Post-Graduate students** for official assessments. Engineered strict **anti-malpractice protocols** (Page Visibility API) with automated termination logic and operated as the **Sole Developer**, ensuring **100% uptime** during live testing.

Tech: React, Python, FastAPI, MongoDB, JWT, Bcrypt

Jr-V1: System-Level Language Interpreter:

Developed a deterministic execution environment in **C**, implementing a full pipeline including a lexical scanner, recursive-descent parser, and runtime evaluator. Focused on **low-level memory management** and **memory-safety protocols** to ensure stable script execution and predictable runtime behavior.

Tech: C