

KOTIPALLI GUNA SAI

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SUMMARY

- Computer Science graduate with experience building backend systems and full-stack applications. Experienced with Java, python, Node.js, React, and cloud deployment, with a focus on building reliable applications and understanding how systems work at scale.

PROJECT EXPERIENCE

- Arbiter (Distributed Rate Limiting & Traffic Control Platform)** | Live | GitHub | npm Jun 2026
- Designed and developed an **API traffic control platform** deployed across **2 cloud providers**, enabling abuse prevention and fair API usage.
 - Implemented **2 rate-limiting algorithms**, Leaky Bucket and Token Bucket, using **Redis atomic operations** for shared state management across service instances.
 - Structured a **stateless Node.js control plane** with horizontally scalable replicas and Redis as the shared coordination layer.
 - Exposed rate-limit policies through a **web dashboard** and **code-level overrides**, allowing configuration changes without modifying or redeploying application code.
 - Tested concurrent workloads, reaching **1k req/sec**.
 - Released a reusable **Node.js SDK** with **200+ npm downloads**.
- Stack:** React, Node.js, PostgreSQL, Redis (Upstash), Docker, NGINX, AWS EC2, GitHub Actions
- BrainWave (Cognitive Training & AI Assistant Platform)** | Live | GitHub May 2026
- Created a cognitive training platform featuring **4+ interactive games** for memory, attention, sequencing, and pattern recognition, designed for users with autism and dyslexia.
 - Integrated a **RAG-based chatbot** with vector retrieval for domain-specific Q&A and personalized game recommendations.
 - Added a survey-driven **early screening module** achieving **90% accuracy** on a curated evaluation dataset.
 - Led a **6-member team** through architecture and full-stack integration, coordinating feature priorities to deliver the platform's games, chatbot, and screening module end-to-end.
- Stack:** React, Node.js, MongoDB, Flask, LLMs, Vector DB
- Conlea (Language Exchange Platform)** | Live | GitHub Aug 2025
- Shipped a language exchange MVP supporting **2 real-time communication features, chat and video calls**, used by **15+ active users**.
 - Integrated **Stream APIs** for real-time communication and **Zustand** for client-side state management across the application.
 - Optimized client-server interactions with **TanStack Query** for caching, background synchronization, and efficient server-state management.
- Stack:** MERN, TailwindCSS, Zustand, TanStack Query, Stream APIs

TECHNICAL SKILLS

Languages: Java, Python, JavaScript, SQL

Frameworks: React, Node.js, Express.js, FastAPI

Web & APIs: HTML, CSS, REST APIs, TailwindCSS, Socket.io, Responsive Web Applications

Databases & Storage: MongoDB, MySQL, AWS S3, MinIO

Cloud & DevOps: AWS (EC2, S3, VPC), Docker, Kubernetes

Software Engineering: OOP, Design Patterns, SDLC, System Integration, Performance Testing, Troubleshooting

Core CS: Data Structures & Algorithms, Operating Systems, DBMS, Computer Networks

Tools: Git, GitHub, VS Code, PyCharm, Postman, AI-Assisted Development Tools

EDUCATION

Keshav Memorial Institute of Technology, Hyderabad, India	Nov 2022 - July 2026
<i>Bachelor of Technology in Computer Science and Engineering</i>	CGPA: 9.01/10.0
Bhashyam Junior College, Hyderabad, India	Jun 2020 - Apr 2022
<i>Intermediate (11th & 12th Grade) - MPC</i>	Score: 98.1%

ACHIEVEMENTS

- Winner, **Centific Premier Hackathon 2.0 (AI-Systems-Engineering stream)**.
- Achieved a **LeetCode Contest Rating of 2078 (Knight)**, ranking in the **top 1.72%** globally. [LeetCode Profile](#)