

## Bhargav Kacharla

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I build AI systems that do more than answer questions. My recent work has focused on LLM agents, RAG pipelines, tool calling, evaluation, observability, and backend services that connect AI models to real workflows.

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### AI ENGINEER PROJECTS

#### *Agent Workflow Engine*

- Built the agent execution layer for Nunchi's Agent Commerce Protocol stack (ERC-8183/8084), with job discovery, on-chain handlers for oracle updates, liquidations, and settlements, and payment settlement, so an agent can pick up a job and finish it without a human stepping in.
- Built the safety layer that sits between the agent and the signer, with destination allowlists, function selector allowlists, per-tx value caps, and per-block rate limits, so a prompt-injected agent cannot drain the wallet or flood the chain.

RAG-Based Knowledge Assistant - **Checkout:** <https://github.com/bhargav55/ai-rag-pipeline>

- Built a TypeScript/Bun RAG pipeline for blockchain protocol documentation, with document ingestion, section-aware chunking, Qdrant vector search, and citation-grounded LLM answers.
- Implemented incremental indexing with content/chunk hashes, stale vector deletion, and a Postgres document registry to skip unchanged docs and avoid unnecessary re-embedding.
- Built evaluation and reliability tooling, including retrieval/answer-quality evals, judge scoring for faithfulness/relevance/citation correctness, structured JSON validation, missing-context handling, and per-stage trace timings.

#### *AI Smart-Contract Auditor -*

- Autonomous Hermes agent with honcho memory provider running with two cron jobs: one discovers live Code4rena/Sherlock bug bounties and runs audits, one scrapes new exploit disclosures daily to keep the knowledge base current.
- Curated a DeFi exploit knowledge base from 650+ on-chain incidents and 331+ contest findings, supporting audits across 14+ codebases including 4 live bug bounties with \$500K+ in prize pools

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### EXPERIENCE

#### **Nunchi.trade**

*Senior Engineer (AI Systems)*

Remote, India

July '25 - Present

- Built an AI-native execution layer for DeFi protocols, enabling autonomous agents to perform liquidation, TP/SL, and risk-management actions using LLM tool-calling integrated with on-chain transactions.
- Designed and deployed an on-chain agent marketplace (ERC-8004 / ERC-8183) where agents register, execute protocol jobs, and claim incentives, forming a verifiable agent-execution and payment system.
- Architected the underlying perpetuals system, including matching engine, risk engine, and liquidation flows, which serves as the execution environment for agent-driven workflows.
- Built indexing pipelines for onchain transaction data, scaling ingestion to **1000 TPS** while keeping agent job execution latency near real time.

#### **Novastro**

*Backend Engineer*

Remote, India

Apr '24 - Jun '25

- Built an in-house indexer for EVM chains using TypeScript, GraphQL, and MongoDB to stream, process, and query on-chain data for analytics.
- Developed backend systems for DeFi protocols, including real-time data aggregation and analytics pipelines for trading metrics and liquidity tracking.
- Worked across multiple execution environments (EVM, Move, Solana), building systems for data processing and execution logic.

#### **Xalts**

*Backend Engineer*

Bangalore, India

Dec '23 - Mar '24

- Implemented account abstraction(ERC-4337) and backend infrastructure for transaction execution pipelines.
- Built internal services to coordinate transaction execution across distributed systems (bundlers, relayers), implementing job scheduling, retries, and batching the transactions increasing processing throughput from **100 TPS to 1000 TPS**.

#### **Oddz**

*Blockchain Engineer*

Bangalore, India

Jan '21 - Dec '23

- Led smart contract development for Oddz protocol (oddz.fi), an options trading platform with concentrated liquidity (Uniswap V3-style) for capital-efficient risk management, staking, and liquidity provisioning. Audited contracts are deployed to BNB Chain and Avalanche.
- Built automation systems for options protocol workflows, including expiry handling, staking reward distribution, and dynamic risk adjustments using Chainlink Keepers and Gelato for on-chain execution maintaining **100%** production uptime.

#### **Rakuten**

*Data Engineer*

Bangalore, India

Oct '20 - Jan '21

- Architected Datalake for Rakuten telecom department for data scientists to develop intelligent models.
- Research big data technologies for building Datalake to handle petabytes of data using MinIO and YugaByte.

#### **OpenText**

*Senior Software Engineer*

Bangalore, India

Jul '18 - Sept '20

- Developed REST services and enterprise web applications using .NET MVC, TypeScript, and Angular.
- Integrated content management systems with third-party APIs.

#### **Tata Consultancy Services**

*Software Engineer*

Bangalore, India

May '15 - Jun '18

- Developed enterprise web applications for banking and telecom clients using C# .NET, JavaScript, and SQL Server.
- Optimized SQL Server stored procedures, reducing report generation time by 40%

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### SKILLS

**AI / LLM** Anthropic SDK, OpenAI SDK, MCP, tool calling, vector databases, RAG pipelines, LangChain, LangGraph, multi-agent orchestration, context engineering, structured outputs, eval frameworks.

**Backend** Python, TypeScript, Node.js, AWS, GCP, Railway, Postgres, MongoDB, SQLite, Docker, REST / GraphQL APIs

**Blockchain** Solidity, Rust (Anchor), Move, ERC-4337/3643/4626/8004/8183, Foundry, Hardhat, smart-contract security

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### EDUCATION

Bachelor of Technology in Computer Science and Engineering SASTRA University, Thanjavur, India

