Vasant Mogia

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Education

Madhav Institute of Technology and Science — Expected May 2027
Bachelor of Technology in Information Technology — Gwalior, MP

Work Experience

QuarterMill | AI Engineer Intern — Jun 2026 – Jul 2026

- Built Celery and Anthropic SDK agents to assess document quality and validate archival references
- Verified LLM outputs against source documents with Pydantic, Instructor, and Langfuse, so reviews are auditable

The Tinkering Society | Software Engineer Intern — Feb 2026 – May 2026

- Automated a polling-to-settlement workflow with Node.js and ethers.js signing, removing manual steps
- Built dispute resolution using Dialectica, Tavily, an LLM synthesis layer, and weighted confidence scoring
- Added a SQLite audit log and index that trace state transitions from polling to resolution

Metry AI | Software Engineer Intern — Sept 2025 – Feb 2026

- Unified and migrated a fragmented React.js codebase to Next.js into one repository with i18n across 5 locales
- Built an AWS Lambda, DynamoDB, SES pipeline that finds at-risk users and sends re-engagement campaigns
- Wrote the technical RFC for a Bayesian and geospatial recommendation engine from stakeholder requirements

Madhav Institute of Technology and Science | Undergraduate Researcher — Jan 2026 – Apr 2026

- Designed an adaptive RL web crawler in PyTorch (Q-Learning, LinUCB, GraphSAGE) that ranks pages [preprint]
- Against 7 baselines, the best configuration retrieved 100% of relevant pages in 2.56s, 9.25× faster than random

Projects

Agent-Causality | Python, TypeScript, Next.js, SQLite, OpenCode Plugin SDK

- Causal debugger that records multi-agent runs as event graphs and explains failures from recorded evidence [preprint]

Vigil | TypeScript, Node.js, Next.js, Hono, AWS S3, PostgreSQL

- Groups recurring failures from session replay and telemetry, then files GitHub issues with root cause and repro steps

Agentic Firewall | Python, FastAPI, MCP, Pydantic, Instructor, JSON Policy Engine

- Security gateway between AI agents and MCP servers that restricts tool access and blocks malicious output

VeriFact (Hackathon Top 10) | Python, FastAPI, PyTorch, RAG, NLP, PostgreSQL

- Led a 4-person team building claim verification with web retrieval, embeddings, and NLP; Ranked Top 10 Finalists

Skills

- **Languages:** Python, TypeScript, JavaScript, C++
- **Frameworks & Tools:** Node.js, Next.js, Express.js, Hono, ethers.js, FastAPI, PyTorch, Docker, Git, GitHub Actions
- **AI Engineering:** AI Agents, Agent Evaluation, Anthropic SDK, Pydantic, Instructor, Langfuse, MCP, RAG, NLP
- **Cloud:** AWS (Lambda, SES, S3, Bedrock), GCP (Cloud Run, Pub/Sub, Cloud Functions, Cloud Storage)
- **Databases:** PostgreSQL, SQLite, Firebase, DynamoDB

Publications and Awards

- **Agent-Causality: Declared Dependency Tracing and Counterfactual Sensitivity Analysis for Multi-Agent Systems** — Preprint, Oct 2026
- **Adaptive Q-Learning Web Crawler: A Hybrid RL Approach to Web Crawling** — Preprint, Apr 2026
- The Unstoppable Hackathon – Bronze (3rd Place), Issued by AOSSIE — Mar 2026
- HackIndore – Top 10 Finalists, Issued by SGSITS Indore — Sept 2025