## **Pruthvi Bhat**

## Al Systems Researcher & MCP Architect

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## **Work Experience**

### Software Developer - 1

1 May 2025 - Current

- Project assistant lead for field agent management app
- Collaborating with dev teams for AI implementation and scoping
- · Languages: Node.js (Express), Python, MS SQL

## Founder, AI Systems Researcher — MURST Initiative

8 Dec 2024 - Current

- · Founded MURST initiative for contributions on AI Agent alignment systems and frameworks for scalability
- Released Open Source MCP framework Vibe Check MCP: 17k+ downloads, 1k+ monthly tool calls, ongoing development
- Whitepapers: Do Al Agents Need Mentors? Evaluating Chain-Pattern Interrupt (CPI) for Oversight and Reliability; Recursive Self-Referential Compression (RSRC): Al's Survival Map in the Post-Scaling Era

#### Content and Engagement Associate — Nbyula

1 Sep 2024 - 4 Nov 2024

- Responsible for managing lead generation and content creation
- Designed LeadsWizard, a GPT-based lead automation system; prototype was later integrated into company API workflows

#### President & Co-Founder — Synapse

1 Jan 2023 - 31 May 2024

- President responsibilities included association strategy, team management, and event facilitation with industry
- Architected and worked on department-wide adoption of SynapseDrive, a scalable resource drive for student resource continuity and centralization
- · Led the execution of multiple initiatives, such as workshops, seminars, and research discussions
- Built connections with industry professionals, including collaborations with Bangalore Bioinnovation Centre
- Mentored junior members, helping them navigate leadership positions responsibly; ensured leadership continuity

## Content Development Intern

1 Sep 2023 - 30 Nov 2023

Part of Academics R&D team; developed 1k+ pieces of educational content in the MBA vertical as an SME

Implemented content automation strategies and workflows, reducing content turnaround time by ~25%; part
of top-performing intern team

#### Research Assistant — Swakit Biotech Pvt. Ltd.

2 May 2023 - 31 Aug 2023

- Research assistantship for college department collaboration with Swakit Biotech Pvt. Ltd.
- End-to-end research on optimizing nutraceutical bioactives in Cordyceps mushroom fruiting bodies
- · Paper manuscript currently in process

#### Laboratory Assistant

14 Jul 2022 - 14 Aug 2022

- Assisted in digitizing patient records and understanding medical data compliance
- Learned about medical lab operations; developed foundational knowledge of medical equipment and workflows

### YouTube Channel Creator and Manager — YouTube

1 Nov 2016 - 1 Nov 2020

- Managed and ran a gaming YouTube channel for 4 years; 4M+ views, 150k+ hours watch time, ~30K+ subscribers at peak
- Developed content strategies; handled ideation, audience targeting, video editing, thumbnail design, SEO, analytics, and community engagement

## **Projects**

Vibe Check MCP — Open-source server built on Anthropic's Model Context Protocol

1 Mar 2025 - Current

Link: https://github.com/PV-Bhat/vibe-check-mcp-server

- Operationalizes a plug-and-play adaptive metacognitive oversight layer for autonomous AI agents
- Acts as a meta-mentor for Al agents, interrupting and preventing dangerous actions with CPI to break Reasoning Lock-In (RLI)

**Leads Wizard** — GPT-based conversational AI system leveraging emotional frameworks, psychological insights, and customer funnels to improve lead conversion and sales

1 Sep 2024 – 1 Nov 2024

Link: https://github.com/PV-Bhat/LeadsWizard

#### GemSuite MCP — Open-source MCP server for advanced Gemini API interaction

2 Feb 2025 - Current

Link: https://github.com/PV-Bhat/gemsuite-mcp

Intelligently selects models for optimal performance, minimal token cost, and seamless integration

## **Education**

Bachelor of Engineering (BE), Biotechnology — B. M. S. College of Engineering

6 Aug 2020 - 11 Jun 2024

Bangalore, India

Website: https://www.bmsce.ac.in/

## Upper Secondary (Grade 12) — CBSE, National Public School Rajajinagar

13 May 2014 - 7 Mar 2020

Bangalore, India

Website: https://npsrnr.com/

## **Skills**

Software Development, Social Media, Multi-agent Systems, Model Context Protocol, Python, JavaScript (Node.js, Express.js), Publish Academic Research, Git, SQL, Systems Architecture, Workflow Automation, Prompt Engineering, Biotechnology, Large Language Models, Team Work and Team Leadership, Systems Thinking

## Languages

English — Mother tongue

## **Publications**

# Do Al Agents Need Mentors? Evaluating Chain-Pattern Interrupt (CPI) for Oversight and Reliability — 2025

- Formalizes RLI as a key Al failure mode for Al agents tackling complex, long-horizon tasks
- Proposes deploying an external meta-cognitive oversight layer for Chain-Pattern Interrupts (CPI) to interrupt
  and correct errors at runtime
- Data supports CPI-style oversight reduces failures and increases success; across 153 runs, agent success with CPI increased from 27% to 54% and harmful actions fell; pooled OR 1.98 (CMH = 0.099)

Bhat, Pruthvi. (2025). Do Al Agents Need Mentors? Evaluating Chain-Pattern Interrupt (CPI) for Oversight and Reliability. 10.13140/RG.2.2.18237.93922.

Link: https://doi.org/10.13140/RG.2.2.18237.93922

## Recursive Self-Referential Compression (RSRC): Al's Survival Map in the Post-Scaling Era — 2025

- Introduces RSRC as a framework addressing limitations of brute-force AI scaling methods, thermodynamically and economically
- Proposes dual metrics for training efficiency (RSRC\_t) and inference efficiency (RSRC\_i)
- Publisher: MURST Initiative

Bhat, Pruthvi. (2025). Recursive Self-Referential Compression (RSRC): Al's Survival Map in the Post-Scaling Era. https://doi.org/10.5281/zenodo.14851363.

Link: https://doi.org/10.5281/zenodo.14851363

## **Additional Details**

- Addressed collaborations with Bangalore Bioinnovation Centre during presidency
- SynapseDrive: led department-wide adoption for resource continuity and centralization
- Content automation led to ~25% turnaround reduction during internship
- Gaming YouTube channel achieved 4M+ views and ~30K+ subscribers at peak