

PRAVIN KUMAR

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Linkedin | GitHub | CodeForces (Master)

EDUCATION

IIT Delhi, New Delhi

B.Tech Computer Science and Engineering

Oct 2020 – May 2024

EXPERIENCE

Abacus.ai | Software Engineer

March 2026 – Present

- Redesigned the **DeepAgent** tool-calling loop with execution guardrails to prevent runaway tool calls, reducing wasted compute by **15%** and cutting total LLM invocations across agentic workflows.
- Architected and optimized the **LLM tool-calling loop** for PowerPoint and Excel creation agents, improving agentic workflow success rate by **20%** and reducing end-to-end latency by **15%**.
- Extended the **presentation agent** with a new edit-PPT flow and added support for multi-sheet ingestion and complex data analysis tasks, expanding the range of supported document workflows.

Meesho | Software Development Engineer, Backend

Feb 2025 – March 2026

- Designed and implemented a **scalable distributed backend system** for Virtual Try-On, supporting async job orchestration, idempotent workflows, model selection strategies, and polling-based status APIs.
- Built automated model evaluation pipelines using quantitative image-quality metrics, enabling data-driven model selection and continuous validation across various generative ML models.
- Led a **zero-downtime cache infrastructure migration** from Redis to Dragonfly using dual-writes and traffic shadowing, achieving a 60% reduction in cost and 40% p99 latency improvement across production.
- Owned production reliability and on-call operations, diagnosing client abort spikes, deployment-induced 5xx errors, and pod-level latency regressions, significantly improving system stability and SLO adherence.

Gan.ai | Software Engineer

May 2024 – Jan 2025

- Identified and mitigated critical performance bottlenecks in the core **create_video** API, enhancing response time by 70% and driving a measurable increase in daily active user engagement.
- Engineered advanced caching strategies with Redis, achieving a 90% reduction in database read operations and significantly boosting the horizontal scalability of the video processing system.
- Orchestrated enterprise CRM integrations with Apollo.io, HubSpot, Twilio, and Mailchimp, streamlining user outreach workflows and expanding the platform's automated engagement capabilities.

Atlassian | Software Engineering Intern

May 2023 – July 2023

- Analyzed internal services and scoring pipelines to evaluate performance metrics; refactored complex scoring logic and updated response schemas to include detailed evaluation parameters.
- Aggregated high-volume data from diverse engineering sources including Bitbucket and Bamboo, integrating new metrics like code coverage into the service performance scoring (SPS) evaluation engine.

PROJECTS

XV6 Operating System

C, XV6

- Introduced system calls for inter-process communication, process tracing, and printing in XV6.
- Extended scheduler with two policies, Rate Monotonic Scheduling and Earliest Deadline First.
- Explored buffer overflow attacks and deployed ASLR for mitigation of these vulnerabilities.

MIPS Processor

C++, VHDL

- Designed a 5-stage MIPS processor; extended to 9 stages with hazard handling and bypassing.
- Architected n-way L1/L2 cache hierarchies with LRU eviction and write-back policies.

Game Playing AI Agent

Python

- Built a Connect4 AI agent utilizing game trees, optimized using alpha-beta pruning for strategic depth.
- Enhanced agent performance by tuning objective functions and adaptively adjusting search depth.

HONORS & ACHIEVEMENTS

- Master on Codeforces**: Peak rating of **2140**; ranked among the **Top 50 in India**.
- 6-star on CodeChef**: Rating of **2250**; ranked among the **Top 100 in India**.
- ICPC Kanpur Regionals**: Secured **Rank 17** out of hundreds of teams in the 2023 regionals.
- ICPC Prelims 2023**: Ranked **77th** nationally in the preliminary round.
- JEE Advanced 2020**: Secured an All India Rank of **644** among 160,000+ candidates.
- JEE Mains 2020**: Achieved an All India Rank of **2400** among 1.2 million+ candidates.
- Global Ranks**: **21st** in CodeChef Starters 96, **9th** in Starters 79, **80th** in AtCoder Contest 421.

TECHNICAL SKILLS

- Programming Languages**: C++, Python, C, Java, Kotlin
- Software & Tools**: Git, Linux, Docker, Postman, REST APIs, GCP, Grafana, Pandas, SQL, FastAPI, MongoDB, Redis, Dragonfly