Ankit Paul

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Summary

Computer Science undergraduate with experience in machine learning, software development, and Agentic AI systems. Interested in scientific research, software development, and exploring the intersection of artificial intelligence, mathematics & quantative finance.

Education

I.K. Gujral Punjab Technical University — Punjab, India
Bachelor of Technology in Computer Science & Engineering; SGPA: 7.33 — *Aug. 2025 – May 2028*

Radha Govind University — Jharkhand, India
Diploma in Computer Science & Engineering; CGPA: 7.47 — *Aug. 2022 – May 2025*

Technical Skills

Languages: Python, C++, C, JavaScript, TypeScript, SQL
Technologies: React.js, Node.js, Express.js, Redis, REST APIs
Concepts: CN, DBMS, OS, DSA, OOP
Tools: Docker, Git, GitHub, AWS, Azure, GCP, CI/CD

Experience

FlyRank AI — Remote
Machine Learning Intern — *July 2026 – Sept. 2026*

- Saved **2.0 hours** across **5 client benchmark runs** by building a 4-step automated data contract auditing pipeline.
- Achieved **84% Precision@50** and **91% Top-20 Precision** on 30,000+ search-log rows using Random Forest models, delivering up to **3.5x lift** over a 24% rule-based baseline.
- Maintained **0.00% target leakage** through strict data contracts and GroupKFold cross-validation across out-of-sample client domains.
- Reduced vision payload size by **74%** and response latency to **under 1.2 seconds** using 1080p WebP frame compression.

Google — Remote
Student Ambassador — *2026*

- Mentored **100+ students** in web development, cloud technologies, and AI integration through hands-on technical guidance.
- Organized and led **20+ technical workshops** covering Google Cloud, AI, and full-stack engineering, including live coding and architecture walkthroughs.
- Generated **8,000+ impressions** through technical documentation, developer resources, and learning guides.

Projects

The Relay – LLM RAG Research Pipeline | *Python, Groq API, RAG, LLMs, Experimental Analysis* — **GitHub**

- Evaluated a multi-step RAG pipeline across **200+ requests** and **3 arXiv papers** through retrieval, question answering, and source citation.
- Compared retrieval quality across **48 queries and 3 retrieval configurations** to evaluate retrieval strategies.
- Tested steady, burst, and sustained-overload scenarios, recording **61.5 requests/min** peak offered load and **14.03-second** simulated burst p95 latency.
- Identified Groq API constraints through live testing, including **30 RPM**, 7,000 TPM, and concurrency degradation beyond 2 in-flight requests.

Campus Buddy – Intra-Campus P2P Marketplace | *React.js, Node.js, Express, MongoDB, Redis* — **GitHub**

- Engineered a campus marketplace supporting hundreds of listings across **5 categories** through REST APIs, product discovery, and inventory management.
- Validated backend performance at **10–25 RPS** with sub-**50 ms** database query latency under tested workloads.
- Tested BOLA/IDOR protection, authentication enforcement, and forged JWT rejection through automated security audits.

CP-Vault – Automated Code Sync Pipeline | *React.js, TypeScript, Vite, GitHub REST API* — **GitHub**

- Automated synchronization of **50–100+ submissions** across LeetCode, Codeforces, CodeChef, and HackerRank using platform-specific submission detection.
- Prevented duplicate commits through SHA-based content hashing and Git Database tree comparisons, with automated problem documentation and repository activity summaries.

YTVidMate – Video/Audio Processing Engine | *Next.js, TypeScript, Node.js, Express, FFmpeg, Redis* — **GitHub**

- Built a media processing system supporting **7 platforms**, **6 video resolutions** (360p–4K), and MP3/M4A extraction at up to 320 kbps.
- Designed asynchronous processing with **3 concurrent worker slots**, a **30-job Redis queue**, and per-IP rate limiting.

Achievements

- **Hackathon Winner**: Won **3 major competitions** (2 National, 1 Regional) among 10+ hackathon participations.
- **Quantitative Trainee, D+A Strategies**: Selected for the 2026 cohort through quantitative assessment and algorithmic screening, covering financial modelling, statistical analysis, and risk management.