

Utkarsh Bali

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EDUCATION

Purdue University

B.S. in Computer Science & Artificial Intelligence | Minor: Psychology

• GPA: 3.90/4.00 | Dean's List & Semester Honors (6×) | Discovery Park Research Scholar (3×) | Mary-Ann Neel Computer Science Scholar

West Lafayette, IN

Aug 2023 – Dec 2026

EXPERIENCE

Recurly

Broomfield, CO

Software Engineer Intern

May 2026 – Aug 2026

- Built the core PDL automation platform using specialized Claude agents (Planner, Decomposer, Sonnet/Opus coder pair, PR Responder) deployed as isolated Kubernetes Jobs via Agent SDK. Drives PRD to merged PRs through 5 human checkpoints, accelerating shipping 3×.
- Shipped an AI SDR Slack bot (async Python, 3-tier Claude routing) querying BigQuery, 6sense, ZoomInfo, and SFDC to research, qualify, and audit account/call history. Returns source-cited briefs and outreach drafts in ~25s, collapsing hours of prospecting into one command.
- Automated a Prospect Report Card pipeline (n8n → FastAPI on Cloud Run → Claude Opus) that turns an inbound marketing form-fill into a personalized PDF analysis of the prospect's subscription business and emails it back, replacing hours of manual SDR research.

QualGent (YC X25)

San Francisco, CA

Software Engineer Intern

Sep 2025 – Dec 2025

- Architected App Crawler, reporting to the CTO: a GKE-distributed Python system indexing Android apps into an org-wide knowledge base. Utilized a GPT-4o DFS agent with Set-of-Marks and uiautomator2 to traverse UIs via ADB and populate a Vertex AI RAG corpus.
- Engineered the event-driven backend that runs it hands-off: a Supabase-queue watcher spawning per-app Kubernetes Jobs, an AAB to APK converter, and remote emulator leasing from a managed GCE fleet, holding a sub-1% failure rate at scale via self-healing CronJobs.
- Built flagship QualGent AI Assistant, an enterprise QA copilot: a Gemini-2.5-Pro orchestrator on Google ADK routing across 45+ tools & sub-agents (RAG, MCP Postgres/pgvector Toolbox, Jira/Linear via OAuth), deployed on Vertex AI Agent Engine via gated Cloud Build.

Purdue University

West Lafayette, IN

Software Engineer - AI Research

Aug 2024 – Present

- Built CLIP-H for clinical hypothesis verification (MIMIC-IV) using Top-K SAEs and a GPT/Claude ensemble. Validated via synthetic oracle (0.844 AUROC), certifying 14 hypotheses for a NeurIPS submission with Purdue and Harvard Business School faculty.
- Developed a Flutter/TypeScript clinical assistant tested across Indiana hospitals that cuts nurses' documentation overhead ~40%, running self-hosted LLaMA 3.2 and an on-device, HIPAA compliant speech-to-text pipeline. Presented at Purdue Spring Research Conference.

Microsoft (The Data Mine @ Purdue)

West Lafayette, IN

Software Engineer - Microsoft Research Collaboration

Aug 2024 – May 2025

- Owned a Python LLM sentiment pipeline (LLaMA 4) that processed millions of social posts across Minecraft and A Minecraft Movie, turning raw social chatter into insights that reached Microsoft product and marketing leadership directly.
- Designed the distributed Azure Databricks and Spark workflows underneath it (SQL-optimized schemas across ingestion, inference, evaluation, and monitoring under strict cost and latency SLAs), cutting compute spend ~25% with no loss in accuracy.

PROJECTS

Checkpoint: AI Agent Testing Platform | Next.js • Python • FastAPI • OpenAI API • AWS

usecheckpoint.dev

- Built an agent-eval platform that auto-generates test suites from configs, executes in sandboxes, and scores traces via an LLM judge.

WalleX: AI Wallpapers | Flutter • Python • HuggingFace • Firebase • GCP • AdMob

[GitHub Repo](#)

- Shipped a cross-platform app with 9 text-to-image models; grew to 3K+ users in 22+ countries, managing deployment and monetization.

LLM Multi-Agent QA System | Python • GPT-4o • OpenAI Vision • ADB • UI Automator • Android SDK/Emulator

[GitHub Repo](#)

- Agentic ADB pipeline (Planner, Executor, Verifier, Supervisor) converting natural language to Android actions using episodic memory.

TECHNICAL SKILLS

Languages: Python, TypeScript, JavaScript, Go, C++, C, Java, SQL

AI/ML & Agents: Claude Agent SDK, Google ADK, MCP, PyTorch, TensorFlow, LangChain, RAG, Multi-Agent Orchestration, SHAP

Backend & APIs: FastAPI, Gin, Node.js, Express, React, Next.js, Flutter, gRPC, REST, GraphQL, Server-Sent Events, WebSockets

Data & Infra: BigQuery, Spark, Kafka, PostgreSQL/pgvector, Elasticsearch, Redis, Supabase, Firebase, MongoDB, MySQL, SQLite

Cloud & DevOps: GCP (GKE, Cloud Run, Vertex AI), AWS, Azure, Kubernetes, Docker, Helm, Terraform, n8n, CI/CD, Git

LEADERSHIP & ACHIEVEMENTS

- **Mary-Ann Neel Computer Science Scholar:** awarded to a top CS student for academic and technical excellence.
- **All India Rank 1638 in KVPY (Top 1%):** nationally ranked among 150,000+ candidates for exceptional scientific aptitude.
- **Discovery Park Research Scholar (3×):** recognized 3× for high-impact interdisciplinary research and engineering.
- **Teaching Assistant - CS 471 (AI) & TDM 101:** guided 300+ students through AI systems, programming, and data engineering.
- **Machine Learning @ Purdue:** led weekly workshops mentoring 200+ students on building and deploying production AI systems.