SWAPNIL MITTAL

swapnil.mittal1@gmail.com | linkedin.com/in/mittalswapnil | github.com/swapnilmittal1 | swapnilmittal.com | 404-513-8227

EDUCATION

Georgia Institute of Technology *Atlanta, Georgia*
Master of Science in Computer Science, Concentration: Machine Learning *Expected December 2026*
Georgia Institute of Technology *Atlanta, Georgia*
Bachelor of Science in Computer Science (Dean's List) *December 2025*

TECHNICAL SKILLS

Programming Languages: Python, Java, C++, Go, Rust, TypeScript, JavaScript, SQL, Bash
Frameworks & Libraries: PyTorch, TensorFlow, Transformers (Hugging Face); React, Node.js, Express.js, Flask, Django
Cloud & DevOps: AWS, Azure, GCP; Docker, Kubernetes, Terraform, Ansible, Helm; GitHub Actions, Jenkins
Databases & Tools: PostgreSQL, MySQL, MongoDB, Redis, SQLite; Git; Linux; CI/CD; REST APIs, GraphQL

EXPERIENCE

Orbex Labs Remote
Machine Learning Engineer Intern *May 2025 – Present*
- Built end-to-end document processing pipeline (OCR of 100K+ scanned briefs, spaCy normalization, centralized feature store) and fine-tuned RoBERTa-Legal for clause extraction/classification, achieving 92% F1 on indemnity.
- Developed a RAG-based Q&A assistant integrated into the client portal using LangChain and Cohere embeddings and implemented RESTful APIs and CI/CD pipelines, reducing attorney query resolution time by 40%.
- Created React human-in-the-loop annotation tools with unit testing in an Agile framework and prototyped generative AI pipelines with LLaMA models on a legal knowledge graph, raising NER accuracy from 65% to 95.2%.

Georgia Tech — Create-X Capstone Atlanta, GA
Head Teaching Assistant *January 2025 – May 2025*
- Coordinate a cohort of 100 interdisciplinary student engineers and 5–10 faculty mentors, and managing course logistics to ensure smooth delivery.
- Answer mentor questions, guide student teams through problem validation, product design iterations, MVP rollouts, and potential commercialization pathways.

KBR, Inc. Houston, TX
Software Engineering Intern *May 2024 – Aug 2024*
- Engineered LLM microservices on Azure AKS (TensorFlow, PyTorch) with Docker, Helm & auto-scaling—500+ req/sec at 99.999% uptime; set up CI/CD (GitHub Actions) and Prometheus/Grafana monitoring.
- Built 2 TB/day ETL pipeline (Azure Data Lake, Synapse, Data Factory) with Terraform IaC & GitOps in Agile/Scrum—ensured 99.99% fidelity, real-time anomaly detection & quality checks.
- Developed HPC simulations (Python, VIKTOR, MATLAB, AutoCAD, RFEM)—boosted computational precision 40%, reduced runtimes 35%, and improved cross-team collaboration via RESTful APIs, and peer code reviews.
- Optimized ETL workflows (parallel processing, intelligent caching, Terraform IaC)—cut operational costs 12%, slashed pipeline latency 40%, and enhanced observability with centralized logging, and dashboard automation.

PROJECTS & OPEN-SOURCE

Reverse-Proxy API Debugger | *C++, POCO, Palantir AIP, React, PostgreSQL* Jan 2025 – April 2025
- Wrote an Envoy-WASM sidecar in C++20 that mirrors 100% HTTP/gRPC traffic, decorates each request with OpenTelemetry spans, and streams traces to ClickHouse at 15k req/s with <200 ms p99 overhead.
- Built a RAG layer over OpenAPI & Confluence using LangChain and Cohere, improving precision to 97%.
- Developed a React/Grafana console for JSON insights, slashing MTTR from 3 h to 12 min, saving 20+ hrs/min.

AI Social Commerce Platform | *Python, React, GraphQL, PyTorch, Pinecone, Meta APIs* Dec 2024 – May 2025
- Deployed federated GraphQL gateway (Go, Apollo) unifying Meta Graph, Messenger, and Shops on AWS Fargate.
- Fine-tuned LoRA-compressed LLaMA via LangChain & Cohere API—cut reply latency 47%
- Streamed Kafka→Flink→Druid events; built Next.js dashboard auto-budgeter, raising ROAS 25%.

Prompt+ | *HackGT 11 Hackathon Overall Winner* Sep 2024
- Built a real-time prompt-optimization tool reducing LLM token usage by 47% via context analysis.
- Implemented dynamic UI in React + Tailwind and real-time collaboration with Socket.IO.