

Aagam Sachin Bothara

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Education

University of Illinois Chicago (UIC), Chicago, IL Aug 2025 – May 2027 (Expected)

M.S. in Computer Science — CGPA: 4.00/4.00

Coursework: Machine Learning, Distributed Systems, Software Engineering, Database Systems, Cloud Computing, Applied Statistics

PCCoER, Savitribai Phule Pune University, India 2019 – 2023

B.E. in Computer Engineering — CGPA: 8.48/10 — Smart India Hackathon 2022 **National Winner** — GATE CS Rank 3410

Technical Skills

Languages: Python, Java, C++, JavaScript, SQL, Bash, HCL

Frameworks & Libraries: FastAPI, React, Flask, scikit-learn, PyTorch, Pandas, NumPy, Pydantic

Cloud & DevOps: AWS (EC2, S3, Lambda, RDS), Azure, GCP, Docker, Kubernetes, Terraform, GitHub Actions

Databases & Storage: PostgreSQL, MongoDB, Redis, MySQL, SQLite

Testing & Quality: Pytest, Selenium, CI/CD pipelines, test automation, data validation frameworks

Concepts: System Design, REST APIs, Microservices, ML Pipelines, ETL, Infrastructure as Code, Agile

Professional Experience

Associate Developer Brillio, Pune, India — Mar 2024 – Aug 2025

- Architected and shipped **5 production services** processing **500K+ daily transactions**, implementing end-to-end data validation pipelines, anomaly detection logic, and structured error handling.
- Engineered automated analysis and reporting workflows that replaced manual processes, reducing human review effort by **60–70%** with reproducible, version-controlled execution across 12+ releases.
- Optimized critical system performance through query tuning, caching strategies, and connection pooling, cutting P95 response times by **65%** and lowering infrastructure costs by **35%**.
- Delivered cross-functional impact reports to stakeholders, translating complex technical findings into actionable insights that drove **3 client-adopted process improvements**.

Associate QA Automation Engineer Zensoft, Pune, India — Jun 2023 – Mar 2024

- Developed automated testing and analysis frameworks covering **300+ scenarios** across 4 product modules, reducing regression cycle time from 8 hours to **45 minutes**.
- Designed a centralized defect analytics service with REST APIs and PostgreSQL, enabling real-time visibility into system health and improving resolution speed by **40%**.

Projects

CASE Optimizer — Cloud Architecture Selection Engine GitHub

- Built a multi-cloud evaluation platform comparing **AWS, Azure, and GCP** simultaneously, integrating **real-time pricing** from 3 provider APIs with a CLIPS rules engine for architecture matching and constraint validation (HIPAA, PCI-DSS, budget, latency SLAs).
- Implemented automated **Terraform code generation** across 12+ resource types and constructed a full-stack interface (FastAPI + React/Vite) with ranked cost-performance results and exportable IaC previews.

Royath — Production E-Commerce Platform royath.com (Live)

- Launched and operate a **live e-commerce platform** serving real customers end-to-end: product catalog, cart/checkout, payment processing, order tracking, and promotional discount engine.
- Crafted a responsive React storefront with collection-based navigation, SEO optimization, and newsletter integration, maintaining **99.5%+ uptime** across seasonal traffic spikes.
- Integrating an **AI-powered custom design studio** enabling users to generate personalized apparel designs via generative AI APIs with real-time canvas preview.

Handwritten Text Recognition — Smart India Hackathon National Winner

- Spearheaded a 6-member team to develop a **deep learning OCR system** (CNN + BiLSTM + CTC loss) for government forms, winning nationally among **10,000+ teams** with **94% character accuracy** on 15K+ noisy handwriting samples.

ModelGuard — ML Model Monitoring & Drift Detection GitHub

- Shipped a drift monitoring system using statistical tests (KS, PSI, Chi-square) across **30+ features** with FastAPI endpoints, CLI tooling, and scheduled alerting; validated on **284K-record** fraud dataset detecting 63% feature drift with F1 drop 0.79 → 0.18.

Awards

Smart India Hackathon — **National Winner (Team Lead)** — Brillio — **Group Excellence Award** — Hackwave (Brillio) — **Runner-Up** — Co-authored IJECERT research paper