Aditya Ajit Pai

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EDUCATION

Master's in Computer Science   *Expected May 2026*
North Carolina State University, Raleigh, NC
Courses: Artificial Intelligence, Neural Networks, Operating Systems, Software Engineering, Object Oriented Design Principles

Bachelor of Technology in Information Technology, Honors in Artificial Intelligence   *Aug 2020 - May 2024*
KJ Somaiya College of Engineering, Mumbai, India
Courses: Algorithms, Database Management Systems, Distributed Systems, Deep Learning, Natural Language Processing

PROFESSIONAL EXPERIENCE

NC State University, Raleigh, USA: Research Assistant   *Jun 2025 - Present*
- Architected closed-loop chemistry workflows, increasing experimental throughput by **40%** using robotics built on GPT-4o API
- Enhanced PhotochemCAD introducing chat with fine-tuned LLM on SQLite spectral data, supporting **2000** chemists

Automatic AI LLC, Louisiana, USA: Software Engineering Intern   *May 2025 - Present*
- Achieved **sub-250ms** data load times by developing a real-time Next.js PWA app that fetches and caches data from Firebase
- Resolved performance issues in Swift and watchOS apps for **30K users** by optimizing network calls to serverless functions

DocTrue Technologies, Bengaluru, India: Founding Engineer | CTO   *Apr 2023 - Aug 2024*
- Saved **5M+ queue hours for 100K+ patients** by developing a multi-lingual WhatsApp chatbot for smart queuing
- Scaled to **450+ doctors in 7 cities**, driving **190% adoption** and **120% revenue growth**, securing a **$25K Startup grant**
- Architected AWS (Postgres–Redis–Express) backend handling **3K+ req/sec** with Nginx, NextJS dashboard using *Agile* methods

UNL Global, Delhi, India: Software Engineering and DevOps Intern   *Jan 2023 - Apr 2023*
- Developed a multiprocessing architecture with Python, Go, and PostGIS to convert geospatial buffer binaries to geoJSON
- Accelerated deployment speed by **250%**, scripting automated Kubernetes deployments with Terraform & Helm Charts
- Processed **2100 GB+** OpenStreetMap datasets via microservices, **mapping *Earth* with 99% accuracy at 5 sqcm precision**

SayHey, Mumbai, India: Software Engineering Intern   *May 2022 - Aug 2022*
- Boosted engagement up to **600 DAUs** by optimizing usability with service workers and 25+ reusable Angular components
- Tested 65+ Spring Boot APIs with Cypress & Postman, improving reliability with **80% test coverage** and **30% fewer bugs**

Pasken Co, Mumbai, India: Data Engineering Intern   *Sep 2021 - Dec 2021*
- Automated ETL with AWS Glue, dockerized microservices, S3, Step Functions, and **saved 25+ hours/week in manual effort**
- Achieved **60% greater system visibility** using ELK Stack with Filebeats for log analysis and CloudWatch for visualization

TECHNICAL SKILLS

Languages & Technologies: Python, Java, C++, TypeScript, HTML, CSS, JS, SQL, Solidity, Pandas, Numpy, Scikit, Keras, TensorFlow
Full Stack & Blockchain: React JS, React Native, Next JS, Node.js, Express.js, Django, Firebase, MongoDB, PostgreSQL, Kotlin, Flutter, REST API, GraphQL, BullMQ, Hardhat, Web3.js, Ethers.js, IPFS, MetaMask, libp2p, Polygon, Geth
Cloud & DevOps: Docker, Kubernetes, Terraform, Helm, Redis, Kafka, Linux, Bash, Git, GitHub Actions, Nginx
Certifications: AWS Cloud Technical Essentials, Azure Cloud Tools and Security, Big Data Modelling, Graph Analytics for Big Data

RELEVANT PROJECTS

PerCent - Personal Finance AI [LINK]   *Nov 2024*
- Built RAG-based chat app using Qwen-14B-Chat (LLM), with financial data scraped via Selenium, Spyder, and BeautifulSoup
- **Reduced LLM load by 30%** via semantic caching using all-mpnet-base-v2, Redis, and RabbitMQ for async query handling

HASChain - A Sustainable Blockchain [LINK]   *Apr 2024*
- Solved counterfeiting problem for **550+ artisans** using NFTs by building blockchain on HiveOs and ERC721 smart contract
- **Reduced mining gas fees by 90%** by developing an optimized L2 chain with Polygon Edge, GEth, libp2p-based consensus

ACHIEVEMENTS & IMPACT

Speaker Engagements: IIM Bangalore, SAKEC Mumbai; **Hackathons:** Winner in **6+ national-level hackathons**