Aman Kumar

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ABOUT ME

I have always been driven by the desire to make (& tinker with) things and solve problems, which is why I enjoy participating in hackathons and competitions that tackle real-world challenges. I also like mathematics and computer science.

EDUCATION

Maharashtra Institute of Technology, World Peace University — 2022-2026
Bachelor of Technology in Computer Science and Engineering, Minor in Business Systems — *GPA 8.29/10*

Army Public School, Pune — 2020-2021
Class 12 (PCMB – Physics, Chemistry, Mathematics, Biology) — *Percentage: 95.4%*

Army Public School, Pune — 2018-2019
Class 10 (Mathematics, Science, English) — *Percentage: 96.2%*

EXPERIENCE

Oracle Financial Services Software: Project Intern — Jun 2025 – Aug 2025
Pune, India

- Offered a return full-time role at Oracle based on internship performance.
- Engineered an AI-driven assistant pipeline for Abort tool log dumps on Oracle Cloud Infrastructure with a RAG failsafe, reducing manual triage effort by 60% and improving SRE resolution speed.
- Developed a Python-based tool to automate DR/DC server consistency checks, ensuring configuration alignment across environments and supporting RBI compliance by reducing manual validation time and improving reliability.
- Performed middleware integration and reliability testing on Oracle WebLogic-based services, validating API and transaction workflows across distributed systems.

Škoda Auto Volkswagen Training Academy - Product Development Intern — Aug 2025 – Ongoing
Pune, India

- Designed and deployed ML-driven e-learning modules for sales training, leveraging Azure Cloud.
- Developed multimodal assessment systems integrating BERT-based NLP models, Azure Speech-to-Text DNNs, and Custom Vision CNNs to evaluate post-sales customer servicing.

PROJECTS

Deep Reinforcement Learning for Basic Games | Deep Q-Networks, Double-DQN, Python, OpenAI Gym
- Trained a Deep Reinforcement Learning agent that exceeds human-level performance on classic Atari games such as Pong, Breakout, and Boxing using raw game screen pixels as input.
- Analyzed and compared the performance of off-policy frameworks, including Deep Q-Network (DQN) and Double-DQN, to optimize learning efficiency and stability.

Software Architecture – Commercia | Spring Boot, Angular, Kafka, Kubernetes, Grafana
- Architected scalable microservices using Spring Boot and Kafka to handle high-volume transactions.
- Deployed on Kubernetes with auto-scaling and load balancing, ensuring fault-tolerance under stress.
- Built observability stack with Prometheus & Grafana to monitor distributed workflows in real-time.

Sports Analytics with YOLOv8 and OpenCV | Object Detection, Optical Flow, Perspective Transform, Python
- Built a computer vision pipeline to detect players and track their movement in sports videos using YOLOv8.
- Segmented players with K-Means clustering to accurately identify t-shirt colors and applied optical flow to measure camera motion.
- Used OpenCV perspective transformation to analyze field depth, enabling computation of player speed and distance covered.

Cloud Development – nextBlog | AWS, Amplify, Tailwind CSS, TipTap Editor
- Developed a scalable blogging platform using Cognito, DynamoDB, S3, AppSync GraphQL
- Implemented modern UI/UX with seamless authentication and media management

Modern Web Applications – Elsenote | Next.js 15, Lucia Auth, Prisma, Stream Chat
- Developed a full-stack social platform with real-time chat, notifications, and optimized data-fetching.
- Implemented server-side rendering and caching for scalable performance using TanStack Query.

ACHIEVEMENTS

HackMIT – Winner (2025): Developed AstroFlow, a CSR pipeline tool for astrophotography using Real-ESRGAN and Vulkan (selected for MITWPU Incubator).

UBS Code for Good – 2nd Place (2025): Built RiseUp, an NGO upskilling platform using FrappeUI to boost user engagement. Offered an internship oppurtunity + Full time employment offer.

HackXMIT – Ideathon 2nd Place (2025): Created Bib, a low-tech solution for delivering lessons to rural areas.

Smart India Hackathon – Internal Runner Up (2024): Built CyberFlow, a real-time cyber monitoring tool with AI/ML-driven incident detection.

EXTRACURRICULARS

Codeforces: Currently a Pupil (max score : 1201)
Codechef: Currently a DIV4 (max score : 1256)

Insight AI Club (Founding Member & Tech Head & Mentor): Led a team of 120+ members; hosted 6+ workshops for 1000+ students on machine learning and cloud deployment. Mentored numerous juniors through projects and publications.

RELEVANT COURSEWORK

Computer Science: Data Structures & Algorithms, Cloud Computing, Distributed Systems, Operating Systems, Database Systems, Software Architecture, Microservices, AI Applications
Mathematics: Probability, Optimization, Statistics, Discrete Mathematics

TECHNICAL SKILLS

Languages: C, C++, SQL, TypeScript, Python, Shell, Java
AI/ML: PyTorch, TensorFlow, OpenAI Gym (now Gymnasium), Langchain, YOLOv8, OpenCV, Scikit-learn
Backend/DevOps: Spring Boot, Node.js, Docker, Kubernetes, Kafka, GraphQL, REST APIs
Cloud/Distributed: AWS (EC2, S3, DynamoDB, Cognito, AppSync), Azure (Azure App service, Statice web apps, Azure AI (Speech, Vision, Language), Azure Virtual Machines), Oracle Cloud Infrastructure
Frontend: React.js, Next.js, Angular, Tailwind CSS, Bootstrap