

# UTKARSH UPADHYAY

+91 8824848425 | utkarsh.upadhyay.in@gmail.com | utkarsh-upadhyay | utkarsh-ls

## EXPERIENCE

**Serri** Nov 2024 – May 2025  
*Software Engineer (Backend & AI Applications)* Remote (India)

- Built a modular Flask backend powering an LLM-based chatbot; maintained stable sub-20s response times.
- Optimized a batch-processing pipeline (~10K API calls) by introducing asyncio and multi-threading, reducing end-to-end latency from 10 min to under 1 min.
- Reduced per-conversation token consumption by 80–90% through memory and state pruning techniques.
- Deployed a RAG microservice with metadata tagging and hierarchical chunking for accurate document retrieval.
- Enhanced observability with structured logs and tracing, reducing debugging and root cause analysis time.

**Samsung** Aug 2023 – Sep 2024  
*Software Engineer (Production Services & SDE)* Bangalore, India

- Resolved critical, time-sensitive production issues (e.g., app-launch failures, map service outages) in under 24 hours to maintain flagship device stability for millions of users.
- Spearheaded the development of an automated JSON-validation tool for ML training pipelines, eliminating 100% of schema-related errors prior to processing.
- Authored unit tests and integrated them into CI, reducing post-release bugs by 40%.
- Managed the deployment life-cycle for 3 core Bixby modules, and contributed to Gen AI feature integration.

**Validus Techfin Services Pvt Ltd** May 2022 – Jul 2022  
*Software Developer Intern (Backend Developer)* Hyderabad, India

- Engineered async Python backend with REST APIs and PostgreSQL, built to handle high-concurrency data processing.
- Orchestrated Dockerized microservices for a planned Kubernetes deployment, with initial deployment to AWS EC2.
- Collaborated in Agile sprints; implemented Git/GitHub workflows for CI/CD.

**Blue Lit Solutions LLP** Jan 2021 – May 2021  
*Software Developer Intern (Backend Developer, ML)* Remote (India)

- Leveraged Docker and AWS to deploy 6 microservices driving a waste-image classification workflow.
- Integrated REST endpoints with React dashboard, providing real-time ML inference metrics.

## PROJECTS

**Wikipedia Search Engine** | Python, Search Engine, Blocked Sort-Based Indexing, TF-IDF Mar 2023

- Created a Wikipedia search engine with blocked sort-based indexing and TF-IDF ranking for English and Hindi Wikipedia dumps, improving query speed by 50%.

**Multilingual Intent API** | Python, FastAPI, Transformers Nov 2022

- Designed a high-performance backend API (FastAPI) to serve a multilingual (10-language) BERT-based intent model.
- Configured the API to handle speech I/O and deliver real-time model inferences with under 3 second response time.

**Suzuki-Kasami Mutual Exclusion** | Python, mpi4py, Distributed Systems Nov 2021

- Implemented Suzuki-Kasami token protocol on a 5-node cluster, ensuring deadlock-free critical-section access.

**AI Chess Engine** | Python, Game Theory, Minimax, Alpha-Beta Pruning Jan 2021

- Developed a chess AI using Minimax with alpha-beta pruning, achieving a 10-move predictive search depth.

## EDUCATION

**International Institute of Information Technology, Hyderabad** Aug 2019 – Jul 2023  
B.Tech in Computer Science – GPA: 8.93/10.00 Hyderabad, India

- Ranked in the top 5% on the college Merit List for academic excellence.
- Served as a Teaching Assistant for 2 semesters in Probability and Statistics.

## SKILLS

**Languages & Frameworks:** Python, C, C++, Java, Flask, FastAPI, asyncio, mpi4py, SQL, MongoDB, JavaScript (React)

**Infrastructure & Tooling:** Docker, Kubernetes, Git/GitHub, CI/CD, AWS, GCP, Azure, Linux, Bash, Observability Tools

**Concepts:** Distributed Systems, Production Support, Microservices, REST APIs, Async Programming, DSA

## EXTRACURRICULAR/ACHIEVEMENTS

Google Kickstart: Global Rank 43 (Nov 2022) – Codeforces Rating: 1607 – Codechef Rating: 1930

KVPY & NTSE Scholar (Top 1%) – JEE Advanced AIR 1617