Abhishek Soundalgekar

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GeeksforGeeks | LeetCode | Portfolio

EDUCATION

University of Southern California, *Masters in Computer Science* | Los Angeles, California — Jan 2025 – Dec 2026
Courses at USC: Analysis of Algorithms | Artificial Intelligence | Machine Learning | Operating Systems | IR

Pune Institute of Computer Technology, *Bachelors in Computer Science* | Pune, India — June 2020 – July 2024

EXPERIENCE

Sarvatra Technologies Private Limited, *Software Developer Intern* **| Pune, India** — Aug 2023 – Jun 2024
- Engineered a UPI financial switch simulator with RSA encryption ensuring secure transactions.
- Optimized Flask and FastAPI microservices, improving system scalability and boosting throughput by **30%.**
- Built robust CI/CD pipelines using Docker and GitHub Actions, cutting deployment time by **50%.**

AlgoAnalytics Private Limited, *Data Scientist* **| Pune, India** — Aug 2023 – Dec 2023
- Implemented sentiment analysis on financial news using SVM, Naive Bayes, Decision Trees, achieving **92% accuracy.**
- Extracted stock-related entities via NER and sequence labeling, boosting overall pipeline accuracy by **18%.**
- Automated data ingestion and feature engineering in Python, reducing model training time by **35%.**

Huf India Private Limited, *Full-stack Developer Intern* **| Pune, India** — Jul 2022 – Dec 2022
- Led front-end coordination for Industry 4.0 project, setting up Git, Figma and designing ReactJS UI for multi-user UX.
- Integrated Node.js REST APIs to stream IoT sensor data into interactive React dashboards.
- Authored Jest and Cypress tests covering 85% of code, improving stability and speeding QA cycles.

USC, *IT Services Student Worker* **| On-Campus (LA, California, USA)** — May 2025 – Present
- Automated password resets and laptop provisioning, cutting workload by 70% and setup time by **80%.**
- Delivered rapid IT support for faculty and directors, resolving issues 50% faster and ensuring operations.
- Applied Generative AI to build automation tools, streamlining 100+ repetitive tasks for supervisors.

Suvidha Foundation (Non-Profit), *Machine Learning Intern* **| Pune, India** — Sep 2023 – Nov 2023
- Developed attention-mechanism bridge in encoder–decoder models, reducing compute overhead by **40%.**
- Automated Python preprocessing pipelines, slashing dataset prep time by **60%.**
- Built and fine-tuned CNN architectures for sequence transduction, improving validation accuracy by **8%.**

University of Limerick, *Research Intern* **| Remote, India** — Jun 2022 – Nov 2022
- Built ML models to predict research outcomes; used heat maps & regression to boost feature-selection accuracy by **15%.**
- Conducted exploratory analysis on 50 GB of sensor & survey data, uncovering three novel predictors.
- Packaged models as Flask REST endpoints, enabling non-technical users to run predictions via web form.

SKILLS & ACHIEVEMENTS

Programming Languages	C, C++, Python, Java, SQL
Tools	GitHub Actions, Bash, React, Django
Systems/Backend	Linux, Git, Docker, REST APIs, Flask, FastAPI, Node.js
ML/AI	NumPy, Pandas, scikit-learn, TensorFlow, HMM, SVM, CNNs
Achievements	Solved 500+ problems on GeekforGeeks, USC Rank 1. Codeforces 4 star.
LeetCode	Unlocked 20+ badges, solved 500+ problems on LeetCode and secured Institute Rank 1.

PROJECTS

WorkLens | PICT - SIG | HTML, CSS, JavaScript, Django, Node.js, Kotlin — Nov 2023
- Under the Government of Punjab's SIH, developed web and Android apps to provide employment data.
- Implemented job notifications using geospatial coordinates for real-time job access.
- Built AR navigation feature displaying company and job details via smartphone camera and map.

Foundations of AI Mega-Project | CSCI-561, USC | C++, Python, TensorFlow, OpenAI Gym — Spring 2025
- Leveraged genetic algorithms for a 3D TSP, achieving 98.35% optimality across three homeworks in a cohort of 188.
- Developed search agents for 5×5 Go and Pac-Man, ranking top in class-wide AI tournaments against baselines.
- Implemented Viterbi-based partially observable Markov decision process engine, decoding hidden states over 20-step sequences in 50+ runs with 100% accuracy and average inference time <10 ms/step.

Analysis of Algorithms Final Project | CSCI-570, USC | C++, Python, NumPy, Matplotlib — Spring 2025
- Enhanced dynamic programming sequence alignment with gap penalties and alpha-matrix costs. Validated 100+ DNA/RNA pairs (up to 20 kbp) with 100% accuracy and average runtime of 0.08s per alignment.
- Designed a robust memory-optimized DP variant reducing space from O(mn) to O(n). Successfully aligned long genomic sequences up to 20k bases with 70% lower memory usage, while fully preserving alignment accuracy.
- Automated benchmarking across 10 dataset sizes (1–20 Kb), achieving 60% memory savings at O(mn) runtime.