

Nitanshu Tak

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Education

UPES B.Tech Computer Science and Engineering, Dehradun
Specialization in Cloud Computing and Virtualization Technology

Dehradun, Uttarakhand
Aug 2023 - May 2027
CGPA: 8.05

Experience

Software Development Intern – The Waiter Company | Jun 2025–Jul 2025 | Remote

- Engineered and deployed core dashboard features(Sidebar, Reports, Inventory, Notifications) using React, TypeScript, Next.js, and Tailwind CSS, streamlining daily operations.
- Architected scalable routing and reusable components, reducing development overhead by 30% and accelerating feature delivery across modules.
- Delivered real-time analytics and inventory modules that automated manual workflows, improving decision-making speed by 45%.
- Translated Figma prototypes into production-ready UIs and resolved numerous UI/UX bugs, enhancing scalability, reducing design-to-dev time by 30%, and boosting overall platform stability.

Projects

Helios - Cloud-Native AI/ML Anomaly Detection & Self-Healing Agent [[Link](#)]

Tech Stack: Python, Flask, scikit-learn, IsolationForest, KMeans, LogisticRegression, TF-IDF, AWS (EC2, S3, IAM, CloudWatch, SNS), Google Colab, Postman

- Built and deployed 5 ML anomaly detection models (CPU, Network, Login, Content Injection, Storage), achieving >95% accuracy in testing.
- Developed a Flask-based API hosted on AWS EC2, integrating S3 for model storage and IAM for secure, role-based access control.
- Enabled real-time monitoring via AWS CloudWatch Dashboards and SNS alerts, cutting manual monitoring time by 70%.
- Designed a scalable, modular, and automated anomaly detection pipeline, open-sourced on GitHub, demonstrating self-healing cloud infrastructure within AWS Free Tier.

PhishGuard – Browser-Based Phishing URL Detection using Machine Learning [[Link](#)]

Tech: Python, ML (Random Forest), Flask, Scikit-Learn, Chrome Extensions, Cybersecurity, URL Analysis

- Built a browser-based phishing URL detection system using Machine Learning (Random Forest) to classify URLs as Safe / Suspicious / Malicious in real time.
- Developed a Chrome extension integrated with a Flask API for instant URL feature extraction and prediction with local, privacy-preserving inference.
- Engineered URL feature extraction pipeline (length, entropy, subdomains, keywords, special characters) and achieved high detection accuracy on benchmark phishing datasets.
- Implemented secure backend-extension communication, response caching, and fallback rule-based heuristics to ensure reliability and low-latency threat detection.

AWS InfraControl - Command Line Based EC2 Lifecycle Utility [[Link](#)]

Tech Stack: Python Boto3, AWS CLI, IAM, EC2, Lambda, S3, SNS

- Prepared a CLI-based system to start, stop, and terminate multiple EC2 instances on demand, scaling seamlessly from a single instance to dozens simultaneously.
- Implemented IAM-based role-specific access controls, strengthening infrastructure security and enforcing least-privilege principles.
- Automated provisioning for 20+ EC2 instances, added logging and monitoring by integrating S3 (activity logs), Lambda (scheduled tasks), and SNS (real-time alerts) for operational reliability.
- Delivered a lightweight, UI-less automation tool that reduced manual provisioning time by ~70% and strengthened confidence in infrastructure-as-code principles.

Technical Skills

Languages: C, C++, Python, Java

Cloud Cloud & DevOps Toolkit: AWS GUI, AWS CLI, Cloud Architecture, DevOps, CI/CD Pipelines, Docker, Microservices, Scalability, Cloud Automation, Infrastructure-as-Code, REST APIs

Concepts & Frameworks: OOPs, Java Swing, File I/O, Collections, Exception Handling

Databases: MySQL, MongoDB, PostgreSQL

Tools: Git, GitHub, Command Line, Visual Studio Code, Google Colab

Courseworks: Operating Systems, Database Management System, Data Communication and Networks, Object Oriented Programming, Data Structures and Algorithm

Certifications

OCI Certified DevOps Professional – Oracle University | Online | Oct 2025 [[Link](#)]

OCI Certified Multicloud Architect Professional – Oracle University | Online | Sep 2025 [[Link](#)]

AWS Cloud Practitioner – Certification Course via GeeksForGeeks | Online | Sep- 2025 [[Link](#)]

Achievements

- University Rank: 2 at Unstop
- Frequent OpenSource Contributor.
- Google Cloud Arcade Trooper and Diamond League 1st Rank Holder, Google Skills (Cohort 2 – Facilitator Milestone, Jul–Oct 2025)
- Student Ambassador at LetsUpgrade and Internshala Student Partner.
- Regular Hackathon Participant - Developed major applications within less than 10 hours each: LuminamL (ML explainability, Amazon ML Challenge 2025), Zyra (AI career mentor, Google Cloud × Hack2Skill), and Saarva Health for All (healthcare platform, Smart India Hackathon); skilled in AI, cloud, and full-stack dev and Observo – AI observability agent integrating OpenAI SDK with LogFire, AgentOps & Braintrust for cross-provider tracing.