Devansh Gupta

Full Stack Developer | Software Engineer

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LinkedIn | GitHub | LeetCode | Annexure

Professional Summary

Results-driven Full Stack Developer and Software Engineer with proven experience designing scalable web applications, cloud-native infrastructures, and production-ready AI systems. Adept at bridging modern web frameworks (MERN Stack, Next.js) with microservices, automated DevOps pipelines, and real-time distributed platforms. Possesses a strong foundation in data structures, algorithms, and system architecture, supplemented by a track record of peer-reviewed research and system innovations.

Technical Skills

Programming Languages: Java, JavaScript, TypeScript, Python, SQL, C++
Frontend Architecture: React.js, Next.js, HTML5, CSS3, Tailwind CSS, State Management, Responsive UI
Backend & Cloud Systems: Node.js, Express.js, RESTful APIs, WebSockets, AWS (EC2, S3), Docker, Kubernetes, Terraform, Nginx, CI/CD Workflows, Linux Shell Scripting
Databases & Caching: MongoDB, MySQL, Redis (In-Memory Caching & Session Management)
AI, Computer Vision & Tools: Git, GitHub, Postman, OpenCV, YOLOv11, NumPy, Pandas, Scikit-Learn

Professional Experience

REDAI Precision Tools, Taiwan Jan 2025 – Jun 2025
Consulting Software Developer

- Architected a production-ready, real-time RGB-D computer vision inspection system integrating Intel RealSense cameras, OpenCV, and YOLOv11 deep learning architectures.
- Engineered highly optimized inference pipelines that achieved a 96.9% segmentation accuracy and a 93.2% object detection accuracy under industrial constraints.
- Accelerated factory floor throughput by 10% by automating hardware/toolkit verification workflows and eliminating manual evaluation bottlenecks.
- Profiled backend execution bottlenecks to optimize real-time video stream parsing, reducing multi-threaded latency across localized automation networks.

National Chung Cheng University, Taiwan Dec 2024 – Jun 2025
Research Intern

- Co-developed high-performance, AI-powered medical imaging pipelines leveraging hyperspectral imaging and advanced machine learning for automated Gastrointestinal (GI) cancer screening.
- Formulated end-to-end image preprocessing, spectral band selection, and multidimensional feature extraction workflows, increasing automated diagnostic classification by a 12% F1-score improvement.
- Contributed to the development of scalable, containerized deep learning systems designed to securely ingest and process high-resolution clinical imagery datasets.

Wipro Full Stride Cloud, India Jul 2024 – Sep 2024
Cloud & DevOps Intern

- Engineered a robust, multi-user real-time chat application utilizing cloud-native AWS infrastructure (EC2, S3) and secure real-time protocols.
- Automated 100% of the underlying staging environments and application provisioning using Terraform (Infrastructure as Code), establishing standardized CI/CD deployment workflows.
- Designed a horizontally scalable cluster architecture using load balancing algorithms to maintain low-latency, real-time communication across multiple active client sessions.

Meritech Software Pvt. Ltd., India May 2023 – Aug 2023
Software Engineering Trainee

- Enhanced machine learning model generalization capabilities by introducing optimized data preprocessing pipelines, validation matrices, and data augmentation layers.
- Authored automated data cleaning scripts handling extensive unstructured data collections, directly reducing downstream model training errors.

Technical Projects

ShopTokyo – Scalable E-Commerce Platform Live Demo | GitHub

Next.js, React.js, TypeScript, Node.js, Express.js, MongoDB, Redis, Nginx, Docker, AWS

- Architected an end-to-end full-stack e-commerce engine customized for cross-border transactions, featuring localized UI layouts and high-performance server-side rendering (SSR) via Next.js.
- Implemented rigid security layers including JWT-driven state authentication, encrypted access tokens, administrative control consoles, and dynamic real-time inventory adjustments.
- Integrated payment processing gateways (GMO & Square), Uber Direct, Rocket Ship, and automated image optimization algorithms to sustain snappy response times.
- Built production-level scaling wrappers utilizing Redis for session/catalog caching, Nginx as a reverse proxy, and Docker for container isolation, reducing database query burdens by up to 40%.

Real-Time Live Transcriber Demo Video

React.js, Node.js, WebSockets, Speech-to-Text APIs, Tailwind CSS

- Developed a ultra-low-latency speech-to-text platform utilizing a bidirectional WebSocket connection layer to handle persistent, continuous raw audio streams.
- Programmed thread-safe message event boundaries to dynamically update live transcript UI components synchronously without trigger delays or component re-render lags.
- Designed comprehensive text-processing workflows, allowing users to inline-edit, filter timestamps, and export transcribed files into various file signatures.

Smart Toolkit Inspector Research Paper

YOLOv11, Intel RealSense SDK, OpenCV, Python

- Constructed an edge-computing vision client capable of automated object detection, identification, and segmentation parsing within factory workspace boundaries.
- Wrapped deep inference frameworks inside lightweight execution environments, minimizing edge processing overhead while sustaining rapid detection workflows.

Education

Thapar Institute of Engineering and Technology, Patiala, India 2021 – 2025

Bachelor of Engineering in Computer Engineering **CGPA: 7.5 / 10.0**

Publications & Patents

Link to Comprehensive Publication Annexure

- **Indian Patent Published (2025):** "Real-Time Adaptive Trust Routing for Underwater Software-Defined Networks." Registration No. / Patent Track Application.
- **Peer-Reviewed Papers:** Authored and co-authored **10 peer-reviewed research papers** appearing in international journals focusing on Deep Learning, Computer Vision architectures, and Medical Diagnostic Imaging.
- **Featured Journal Publication (2025):** "Deep Learning-Based Toolkit Inspection for Assembly Line Detection & Segmentation" – *Computers, Materials & Continua, 2025.*

Certifications, Achievements & Languages

- **Hackathons:** Top 15 Finalist out of thousands of teams nationwide in the *Amdocs Hackathon* (India); Top 10 Finalist in the *Kavach National Cybersecurity Hackathon* (Ministry of Education Innovation Cell).
- **Certifications:** IBM – Advanced Cybersecurity with AI (In Progress) · IBM – Data Science & Machine Learning with AI · Full Stack Development with AI (MERN Stack Credentials).
- **Languages Spoken:** English (Fluent), Hindi (Native), Japanese (JLPT N5 Certification).