

DEVESH SINGH

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WORK EXPERIENCE

CYLSE TECHNOLOGIES

Position: Full Stack Developer

Client: New York Blood Center (NYBC)

Varanasi, VNS

Apr 2025 – Jul 2025(expected)

INTELLIGENT OCR SYSTEM FOR DONOR MEDICAL HISTORY FORMS

- Designed and deployed an OCR pipeline using Django and Gemini API to extract structured data from scanned donor forms (PDFs)
- Engineered React-based frontend with editable form UI and confidence-based highlighting for OCR corrections
- Integrated Azure Blob Storage with append-only CSV/HTML architecture to resolve concurrency and data integrity issues
- Delivered end-to-end system handling secure uploads, OCR processing, user verification, and downloadable outputs

PDF QUALITY CONTROL SYSTEM

- Built a modular system to analyze scanned PDFs (English/Hindi) for image quality, OCR readiness, and compliance using OpenCV and Tesseract
- Developed detectors for blur, skew, orientation, brightness, duplicates, and DPI/bit-depth validation
- Designed and generated structured PDF reports using ReportLab with QC flags, metadata, and OCR statistics
- Automated PDF-to-image conversion, metadata extraction, and per-page analysis in a scalable backend workflow

UNIVERSITY PROJECTS

AUTOMATIC GITHUB PR REVIEW SYSTEM

Sept 2024 - Oct 2024

Implemented a streamlined PR evaluation process utilizing **Next.js** and **GitHub OAuth** for authentication; improved coding standards with actionable AI-generated insights, eliminating inconsistencies in over 50 submissions.

- Integrated GitHub OAuth to authenticate users and securely store access tokens in MongoDB.
- Enabled dynamic repository selection and implemented webhooks to track and handle real-time pull request events.
- Leveraged Gemini 1.5 Flash to analyze 50+ PRs and post AI-generated feedback, reducing manual review time by 40%.

SERVERLESS IMAGE PROCESSING AND COMPRESSION SYSTEM

Jun 2024 - Aug 2024

Developed an image processing and compression system using Next.js and AWS Lambda, optimizing storage and bandwidth.

- Built a scalable image compression system reducing sizes by 83.06% (avg. 8.95×) across 100+ images.
- Achieved 2.3s average compression time with optimized high-throughput processing.

ACTIVITIES

E-CELL, VIT Bhopal University

Bhopal, MP

Backend Developer

Dec 2024 – Present

- Develops and maintains backend systems to support E-Cell's web applications.
- Collaborates with a 5-member in frontend team to enhance system performance.

Robotics Club VIT Bhopal University

Bhopal, MP

Co-Lead Technical Department

Feb 2024 – Nov 2024

- Led a technical seminar on object avoidance robots in Webots simulation for an audience of 65 attendees.
- Evaluated 50+ robot programs, judging based on efficiency and path accuracy.

ADDITIONAL

Technical Skills: Advanced in Python, JavaScript, HTML/CSS, and Node.js, React, SQL, MongoDB, Networking, Github, Terraform, MERN, Familiar with AWS and Terraform for cloud infrastructure, and GitHub for version control

Certifications & Training: AWS Educate Getting Started with Storage, Machine Learning Specialization Coursera

EDUCATION

VIT BHOPAL UNIVERSITY

Bhopal, MP

Bachelor of Computer Science Engineering

Expected May 2026

CGPA: 8.8