

Abhilaksh Singh Reen

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[LinkedIn](#) [GitHub](#) [Portfolio](#)

WORK EXPERIENCE

Vision Lab, IIT Delhi - Project Scientist | [System Demo](#) Apr 2023 - Present

- Developed the [IIT Delhi CoE AI in Healthcare](#) system for Breast Cancer Detection, Gall Bladder Cancer Detection, and Chest X-Ray classification.
- Constructed Authentication, DICOM Web, and secure data sharing services using Django Rest Framework and PostgreSQL.
- Utilized Celery with Redis for task queue management and integrated live status updates for inference processes to enhance user experience.
- Collaborated with the DevOps team to containerize and deploy the applications on the IIT Delhi Cloud.
- Deployed PyTorch and TensorRT models using Nvidia's Triton Inference Server.
- Built and deployed an LRU-cache-based Wrapper for the Triton Inference Server, leading to a 97% reduction in the inference API's response time.
- Developed and executed SQL migration scripts to make updates to database schemas while maintaining data integrity.
- Set up Cron jobs for database backups and for removing unreferenced files from Storage.
- Orchestrated on-premise (internet-isolated) deployments of the applications in AIIMS Delhi, NCI-AIIMS Jhajjar, and PGIMER Chandigarh. These deployments have helped in the diagnosis of over 1,200 patients.

Uipro Corporation - Full-Stack Developer Intern July 2021 - Jan 2022

- Worked on the Backend and Admin Interface of an E-commerce system, powered by Node, Express, and PostgreSQL. Created APIs for user authentication via OTP, processing payments, and adding stock to the store, including upload of product images to AWS S3.
- Utilized Redis for adding a server-side caching layer, reducing the API's average response time from 252ms to 89ms.
- Added real-time location tracking for the Delivery Person's application to monitor the distance traveled along with the vehicle's location in case of a mishap.
- Built a Razorpay Payment Verification Webhook to verify payments from the RazorPay Payment Gateway.

EDUCATION

Guru Gobind Singh Indraprastha University Bachelor's in Computer Science Engineering | GPA: 8.94

July 2019 - July 2023

PROJECTS

Platformatic | [Contributor](#)

Platformatic is a Node.js package that gets over 700,000 downloads per week.

- Allowed the configuration of serving backend metrics on the application server or on a separate dedicated port.
- Created the algorithm for adding summaries and descriptions of dynamically generated routes to the Open API specification.
- Added error handling to prevent the Platformatic CLI process from crashing in case it fails to fetch configuration from a particular URL.

Abnormal Docs - CT Reports

- A website that enables patients to view animated renderings of their CT reports and also provides them with a simplified explanation of their medical condition.
- Devised a pipeline to generate a 3D model from the patient's medical volume.
- Built the backend server and APIs for adding new reports and querying GPT-4.
- Generated procedural animations in Three.js based on the Region of Interest in the model and its geometry.
- Powered By: Django Rest Framework, PostgreSQL, React, Three.js.

SKILLS

Languages

Python, JavaScript, TypeScript, C, C++

Libraries and Frameworks

Django, Django Rest Framework, Fast API, Node.js, Next.js, Express.js, Fastify, GraphQL, React, Redux, Three.js, PyTorch, OpenCV, NumPy

Databases

PostgreSQL, MySQL, MongoDB, Cloud Firestore, Redis

Infrastructure

Docker, Docker Compose, Nginx, GlusterFS, Rabbit MQ, Celery, TensorRT, Triton Inference Server, Cloud Functions, AWS (EC2, Lambda, S3), Firebase

Monitoring

Grafana, Prometheus, Grafana Loki

Other

Git, GitHub, GitHub Actions, Boto3, Grafana k6

ACHIEVEMENTS

Pragati Hackathon 2023

Final Stage

Veersa Hackathon 2022

Semi-Finals

CodeForces

Specialist (1,484)

Top 12.5%

LeetCode

Contest Rating 1,837

Top 6.25%