ABRAR UL RIYAZ

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EXPERIENCE

Research & Backend Development Lead
GAASH Lab — National Institute of Technology (NIT) Srinagar

📅 Apr 2025 – Present 　　　📍 Srinagar, India – Onsite

- Contributing to research in the areas of Machine Learning and Artificial Intelligence as part of GAASH Lab's core research team.
- Collaborating on experiments involving data analysis, model development, and applying AI to real-world scenarios.
- Leading the Backend Development Team for web projects. Overseeing database design, API development, and server-side architecture.
- Building and deploying scalable full-stack applications using technologies like Django, PostgreSQL, and RESTful APIs.

Research Intern
AI4BHARAT Lab — Indian Institute of Technology (IIT) Madras

📅 Dec 2024 – Mar 2025 　　　📍 Madras, India — Remote

- Performed Optical Character Recognition (OCR) on regional Indian languages including Urdu, Bengali, and Assamese.
- Worked with two OCR engines - AI4Bharat's Surya OCR and Google Cloud Vision OCR.
- Conducted a detailed comparative analysis of both engines, evaluating accuracy and language-specific performance.
- Documented results and contributed to dataset uploads and performance reports for benchmarking.

TECHNICAL SKILLS

- Data Structures & Algorithms (DSA), Object-Oriented Programming (OOP), Operating Systems (OS), DBMS, Big Data, Computer Networking
- HTML, CSS, JavaScript, React.js, Tailwind CSS, Bootstrap
- Django, FastApi, Pydantic, MySQL, PostgreSQL, MongoDB
- C, C++, Python, Java (OOP)
- Git, GitHub, Hugging Face, Postman, REST Client, Thunder Client
- Netlify, Vercel, Render
- Docker, Kubernetes,Kafka
- Machine Learning, Deep Learning, Computer Vision, Generative AI, NLP (Intermediate), NumPy, Pandas, Scikit-learn, PyTorch, Matplotlib, OpenCV

EDUCATION

B.Tech in Information Technology 　　　*Nov 2022 – present*
National Institute of Technology (NIT) Srinagar

📅 Grade: 8.27/10 　　　📍 Srinagar, Kashmir

HSC (10+2) 　　　*Dec 2019 – March 2021*
NIGEEN HIGHER SECONDARY

📅 Grade: 9.46/10 　　　📍 Srinagar, India

LANGUAGES

- English (Professional Fluency), Urdu and Hindi (Native)

PROJECTS

PromptIQ　　　◯

- Full-stack AI chatbot built with React and Django, allowing users to choose between multiple LLMs (e.g., **GPT-4, Gemini**) for flexible, model-specific responses.
- Allows users to upload PDFs, ask questions about their content using natural language, and download the AI-generated responses as well-formatted PDFs.
- Maintains context-aware chat history and generates AI-powered quiz questions from user-selected topics, exportable as well-formatted PDFs.

BIS-Basha　　　◯

- Supports translation and text-to-speech (TTS) for multiple Indian languages, including **Hindi, Tamil, Bengali, and Marathi**, improving accessibility and inclusivity.
- Provides AI-generated summaries of uploaded PDFs for quick content understanding.
- Built with a modular backend pipeline integrating NLP, translation, and TTS models for efficient processing.

DockVault　　　◯

- Platform for doctors and healthcare professionals to securely store patient records, visits, treatments, and test results.
- Fetches the full history of a patient and uses **AI** to generate concise summaries of patient's history, highlighting key details and potential gaps in previous treatments.
- Provides **AI-driven** suggestions for next steps in treatment and patient care based on historical data and best practices.

FocusBoard　　　◯

- **AI-powered** full-stack task management app built using React, Django, and PostgreSQL.
- Integrated **AI assistant** that offers time-bound strategies and curated resources for tasks via natural language queries.
- Allows users to set deadlines, assign priority levels, and track overall task progress.

RESPONSIBILITIES

- Leading backend development at GAASH Lab, NIT Srinagar-overseeing architecture, mentoring juniors, and ensuring scalable solutions.
- Served as Class Representative for two years-bridging faculty and students, coordinating academics, and resolving concerns.

ACHIEVEMENTS

- Completed certified Microsoft x LinkedIn course on Generative AI
- Created a novel grounded dataset with over 4,500 samples in COCO format for surgical tool segmentation - first of its kind to enable training of vision-language models for reasoning-based segmentation tasks