

Amit Sharma



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EXPERIENCE

Senior AI Engineer

Roro Solutions

Jan 2025 - Present

Remote/Noida, India

- Collaborating across teams to integrate AI-driven insights into core products.
- Building AI solutions that can seamlessly cater up to 300k requests per day.
- Leading the development of AI-driven systems, from data acquisition and preprocessing to model training, evaluation, and deployment, while integrating best practices for MLOps and cloud-based solutions.
- Fine-tuning and evaluating language models in domain-specific datasets to optimize performance for business requirements.

Senior Data Scientist

Datakalp

Feb 2024 - July 2024

Remote/Bangalore, India

- Created a production-grade Retrieval-Augmented Generation (RAG) pipeline for deploying CPU-optimized language models, reducing latency and hardware costs.
- Developed end-to-end pipelines for object counting and detection using cutting-edge deep learning models, delivering high-precision and scalability solutions.
- Designed data pre-processing workflows and customized neural network architectures to handle large-scale image datasets efficiently.

Research Fellow

iHub-Data, IIIT Hyderabad

May 2021 - April 2022

Remote/Hyderabad, India

- Achieved significant improvements over state-of-the-art deep learning models for emotion recognition, enhancing prediction accuracy and robustness.
- Developed a novel multimodal deep learning question and answer system that uses electrocardiogram (ECG) data, introducing physiological signals into text-based models.
- Conducted comprehensive experiments integrating multiple data modalities, publishing results that advanced research in emotion AI.
- Collaborated with a multidisciplinary team to implement research prototypes into actionable software tools.

Associate Data Scientist

AlgoAnalytics

Nov 2020 - May 2021

Remote/Pune, India

- Adapted and optimized Generative Adversarial Networks (GANs) for a production-ready virtual try-on platform, improving image quality and realism to reflect Indian skin tones and body types better.
- Developed preprocessing pipelines and model architectures to handle various user inputs, achieving consistent output across various scenarios.
- Collaborated with the design and product teams to align AI-generated results with end-user expectations.
- Enhanced model training pipelines by introducing adversarial loss and data augmentation techniques, improving overall system reliability.

Software Engineer

Newgen Software

July 2018 - Sep 2019

Mumbai, India

- Designed and developed scalable solutions for a loan management system, including bug resolution and feature enhancement for web and mobile platforms.
- Collaborated with cross-functional teams to build user-friendly features, facilitating workflows for a large financial institution.
- Refactored legacy codebases to improve maintainability and system performance.
- Implemented RESTful APIs and optimized backend processes to enhance scalability and reduce downtime.

EDUCATION

IIIT, Hyderabad - MS in CSE by Research
DYPCOE, Pune - BE in CSE

Jan 2022 - Dec 2024
May 2014 - May 2018

SKILLS

Proficient in: Languages & Frameworks: Python, PyTorch, LangChain, ReactJS, NextJS, Java
Libraries: NumPy, Pandas, Matplotlib, sklearn, NLTK, OpenCV
Databases: MongoDB, Oracle, MySQL
Cloud: AWS (SageMaker, Elastic Beanstalk, S3), Azure (VM)

Experience in: HTML, CSS, JavaScript, Git, HPC, Docker, REST API, GANs, Shapely, Vector Databases, Firebase, RNNs, Transformers, NLP, Transfer Learning, Fine-tuning

PROJECTS & PUBLICATIONS

- **Lupus Nephritis Subtype Classification With Only Slide-Level Labels.** *Adv: Dr. P.K. Vinod & Dr. C.V. Jawahar*
[Accepted MIDL 2024 - [Paper](#)]
Developed a novel pipeline for classifying lupus nephritis subtypes using digital whole slide images. Efficiently processed gigapixel images in resource-constrained environments.
- **Multiple Instance Learning for Glioma Diagnosis using Hematoxylin and Eosin Whole Slide Images: An Indian cohort Study** *Adv: Dr. P.K. Vinod & Dr. C.V. Jawahar*
[Accepted - Nature Scientific Data - [Paper](#)]
Benchmarked multiple-instance learning (MIL) methods on a curated brain tumor dataset, achieving a 12% improvement over state-of-the-art methods in 3-way classification.
- **Breast Cancer Subtype Classification.** *Adv: Dr. P.K. Vinod & Dr. C.V. Jawahar*
[Manuscript Writing]
Developed MIL algorithms for breast cancer subtype classification, utilizing a self-supervised feature extractor to improve model precision and interpretability.
- **ChatGPT-powered SaaS Platform for Chatbot Building.** *NextJS, HTML, CSS, LangChain, Pinecone*
Designed, deployed, and currently managing a SaaS platform enabling businesses to create custom RAG-enabled chatbots through LangChain, Pinecone, and OpenAI APIs. [[Link](#)]
- **BCCL Website Development.** *HTML, CSS, JavaScript, Nginx*
Developed, deployed, and maintained the website for the Brain-Computer Cognition Lab (BCCL), ensuring responsive design and user engagement. [[Link](#)]
- **Felicity, IIIT Website Development.** *ReactJS, HTML, CSS, JavaScript, Three.js, Node.js*
Member of the Felicity 2k23 web development team. Created an engaging website using ReactJS, focusing on user experience and responsiveness [[Link](#)]

ACHIEVEMENTS

- Awarded **1st rank** at the school level and **4th rank** at the state level in the Mathematics Olympiad for exceptional problem solving skills and mathematical aptitude.
- Recipient of the **Prime Minister Special Scholarship Scheme**, a fully-sponsored scholarship recognizing outstanding academic performance.
- Granted a fully-funded fellowship by **iHub-Data**, with financial backing from the **Department of Science & Technology, Government of India**, for the pursuit of master's course in AI.
- Selected among the **top 25 teams** from over 600 nationwide participants in the 'Power of Connected Hackathon,' organized by Honeywell in Bangalore.
- Secured **1st place** in a competitive website development challenge, creating a platform to extract and analyze semester results from Pune University's official PDF documents, streamlining academic data processing.