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MEGHPAL SINGH



DATA SCIENTIST | TECH LEAD | DATA MANAGER

PROFILE

Versatile data scientist with core expertise in NLP, CV, Big Data, and parallelization. Track record of collaborating and leading diverse teams. Scalability, modularity, and clean-code enthusiast. 6 YOE.

SKILLS

LANGUAGES

- Python | R | Bash
- JavaScript | C++ | C# | Java

FRAMEWORKS

- TensorFlow | PyTorch | sklearn
- MLFlow | SageMaker | MLOps
- LangChain | HuggingFace
- React | Node | Express
- Flask | Kafka | RabbitMQ

INFRASTRUCTURE

- Azure | AWS
- GPU clusters | TPU
- Docker | Kubernetes

DATA MANAGEMENT

- PL/SQL | GraphQL | NoSQL
- Distributed DP | Sharding
- PyTables | Spark | Redis
- Plotly | Tableau | Power BI

EDUCATION

ACCELERATED MASTERS, AI/ML

Plaksha University

Silver Medalist

2020-2021

3.82 /4.0

B-TECH, COMPUTER SCIENCE
AND ENGINEERING

VIT University

2012-2016

7.67 /10.0

ACHIEVEMENTS

Star Performer

Calpion Inc.

2022 | 2023

Mobile CC - Star Performer

Shell

2019

APEX Delivery & Profitability AWD

Accenture

2018

RELEVANT EXPERIENCE

TECH LEAD - DEEP LEARNING | **Calpion Inc.** Bengaluru

Mar 2022 - Present

- Designed **3D CNN/ViT** and **BERT** architectures for TPUs to boost **drug discovery**, identifying functional mutations with a hit rate of **20-50%**.
- Did **extensive XAI** research and **sensitivity analysis** to engineer a **robust explainable module** to decipher and boost confidence in our inferences.
- Formulated **3D Diffusion (DDPM)** models with **<6.32 FID** for predicting structure of **point-mutations**, including **RePaint** for inpainting capabilities.
- Stayed on the **bleeding edge**: **AlphaFold**, **Transformers**, **LoRA**, **LLM Adapters**. Presented latest research papers, leading the team's knowledge.

MANAGER IT - DATA SCIENCE | **Dr. Lal PathLabs** Gurugram

Aug 2021 - Mar 2022

- Engineered a **Hybrid Recommender System** combating the **cold start problem** for cross/up-selling. Performed a **modified version of XQuAD** to improve **coverage** and reduce **popularity bias** after careful data mining.
- Conceived and devised the **ICR** to **automate data entry** of forms. Tuned **image segmentation** and **manipulation** for perfect extraction.
- Developed **Estimated Time of Report** using **MLP** incorporating **feedback loops** from our **real-time lab logistics**. Improved accuracy from **70% to 86%**.
- Managed** teams of **vendors** - maintaining the **AI products** we built, and building our **Data Lake** to enabling complex future data use-cases.

DATA SCIENTIST & PRODUCT OWNER | **HRS** Köln

Apr 2021 - Jul 2021 (ML Internship)

- Led an **R&D data team** in developing an **Active Learning** framework for **image data & aesthetics** with **87% accuracy** and **90+ SRCC/PLCC/KRCC**.
- Worked with **SOTAs** in **CNNs**, **Transfer Learning**, **UNIQUE**, and **Self Supervised Learning** to infer **80M hotel images** with **87% accuracy**.
- Productionized a **scalable, customizable, end-to-end** training pipeline.

FULLSTACK ML DEVELOPER | **Shell** Bengaluru

Mar 2019 - Aug 2020

- Analytics over **15M+** fuel-purchase records, harvested from **Data lake** and automation of the whole **carbon offset calculation** as a **real-time API**.
- Leveraged **NLP** and **intent classification** to integrate multiple **payment APIs** into a **scalable voice chat interface**, delivering a **seamless UX**.
- Developed applications with **cutting-edge requirements** - **AR/VR**, **Face recognition**, **Chatbot**, and **Cloud** with the latest design patterns.
- As part of the **R&D team**, delivered **4 mobile** and **3 web apps** with a business value of **\$725K**. Raised **POC** to **product** ratio from **10% to 45%**.

SOFTWARE ENGINEER | **Accenture** Bengaluru

Jan 2017 - Feb 2019

- Worked on **prediction & analytics engine** for tech-debt in our codebase.
- Managed **DevOPS pipelines** and **DB administration**, serving **Middleware**.