Astha Rastogi

Software Developer

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EDUCATION

B.E. Electronics and Instrumentation	2018 – 2022
BITS Pilani, Pilani Campus	Pilani, India
Graduated First Division	

PROFESSIONAL EXPERIENCE

Associate Machine Learning Engineer	10/2023 – Present
Exponentia.AI	Mumbai, India

- **Revolutionized data processing for LLMs**, transforming Excel datasets into a queryable format for seamless integration and enhanced model accessibility.
- **Driving a dynamic tech stack transition**, orchestrating the migration of our pipeline to state-of-the-art technologies, showcasing **proactive leadership in adopting cutting-edge solutions**.

Research Associate	06/2022 – 04/2023
Design.AI, Aalto University	Helsinki, Finland

- Developed and transformed **user interface research into a market-ready industrial product**, enabling designers to collaborate and co-design with an automated tool.
- Implemented end-to-end model creation as a **full-stack developer** using technologies like ReactJS, Typescript, Google Protocol Buffers, and Python.
- **Implemented optimization techniques**, including GRIDs, to offer users personalized and optimized design layouts, while **leveraging machine learning models** such as DeepGaze3 to enhance design saliency for optimal visual experiences.
- **Developed the tool's UI** from scratch and utilized Django to generate insightful reports, facilitating **in-depth analysis of usage data**.
- **Adapted quickly to changing requirements and priorities**, displaying flexibility and resourcefulness in a **fast-paced, early-stage startup.**

Machine Learning Intern	08/2020 – 09/2020
Incampus Ltd.	Delhi, India

- Developed a **robust content-based recommendation system** from the ground up.
- Gained proficiency in **utilizing machine learning and natural language processing techniques.**

Web Development Intern	05/2019 – 07/2019
Bharti Airtel Ltd.	Gurgaon, India

- Honed skills in **full-stack web development** utilizing technologies such as HTML, CSS, JavaScript, AngularJS, NodeJS, and MySQL through successful delivery of the project.
- Gained valuable insights into corporate culture, **fostering a strong understanding of professionalism and teamwork.**

PROJECTS

Machine Learning Based Event Extraction from Unstructured Data	07/2021 – 12/2021
Bachelor's Thesis	

- Utilized **Interactive Machine Learning** and **Machine Reading Comprehension** techniques to develop an innovative model at the **University of Manchester** with Dr. Riza Batista-Navarro and Dr. Surekha Bhanot.
- Created a system that **extracts events from unstructured online data** using a semi-supervised approach, generating machine-readable event templates without pre-existing annotations.

- **Trained the model to ask relevant questions**, improving its accuracy in structuring event information.
- Inculcated **strong research, problem-solving,** and **critical thinking skills** through collaborative work with academic mentors and experts, **enhancing communication, teamwork, and model design abilities**.

Vision Transformers for EEG-Based Emotion Recognition 07/2021 – 10/2021
- **Led a two-member team** in creating a modified vision transformer, classifying emotions using EEG signals.
- Collaborated to design and implement a **robust model architecture, surpassing state-of-the-art performance** using additional convolutional token embeddings and convolutional feature extractors.
- Acquired experience in **conducting independent research, designing experiments,** and **interpreting results** in an academic setting.

Coursework Projects
- Simulated the research on **one-shot instance segmentation** using **Siamese Networks, FPNs, ResNet-50** to build a system that would identify the category of a set of images using only a single reference image.
- Simulated research results on **autonomous driving,** focusing on achieving explainability using the BDDX dataset, **semantic segmentation, CNNs, and visual attention maps**.

SKILLS

Languages
Python, C, C++, JavaScript, TypeScript, MATLAB, HTML, CSS, MySQL

Frameworks
Django, Flask, AngularJS, SQL, PyTorch, FastAPI, LangChain

Libraries
React, Keras, TensorFlow, NumPy, Pandas, Scikit-Learn, MatplotLib, Gradio

Concepts
Machine Learning, Neural Networks, Computer Vision, Natural Language Processing, Front-end Development, Full-Stack Development

Soft Skills
Critical Thinking, Problem Solving, Attention to Detail, Adaptability, Time Management

CERTIFICATIONS

Artificial Intelligence and Internet of Things
IIT Kanpur

Neural Networks and Deep Learning
Deeplearning.ai

Scalable Machine Learning with Apache Spark
Databricks

LangChain - Develop LLM Powered Applications with LangChain
Eden Marco - Udemy

EXTRA CURRICULARS

Collegiate Swim Team
Vice Captain
- Organized intra-BITS swimming event, coordinated participation in inter-collegiate events, secured multiple tournament medals
- Developed strong teamwork, leadership, and organizational skills.

Department of Photography
Core Member
- Captured and covered college festivals through aesthetic and portrait photography.
- Led merchandise creation, design, and sales using the content to raise funds during the events.