Shantanu Sharma

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EXPERIENCE

Becton Dickinson **06/2023 – 06/2024**

Executive - Strategy and Transformation Team

- **Feature extraction** and **visualization** of supply chain data to provide stakeholders with actionable insights and drive business growth.
- **Automated data processing pipeline** to minimize time and labor (up to 50%) while eliminating human error.
- Present **Power BI** dashboards to the leadership teams containing crucial business trends.
- Identify and address bottlenecks in the supply chain and use **data-driven techniques** to mitigate them.
- Developed **time-series forecasting** models (**Neural Prophet, XGBoost**) for predicting product inventory in advance.

EdgeNeural.ai **07/2022 – 10/2022**

Artificial Intelligence Intern

- **Trained object detection models** and optimized them for best performance on edge devices. **Automated training and inference**.
- Built a **Tflite optimization tool** and integrated it with **Docker**.
- Implemented **vehicle detection** for dash cams for self driving trucks and **tested the models on android**.
- Benchmarked **lightweight detection models (SSD7, FastestDet, NanoDet etc)** for mobile deployment.

Carscan.ai **08/2021 – 11/2021**

Data Science Intern

- **Built deep learning pipelines** to extract visual information from car images.
- Optimized models using **model pruning** and **ONNX** inference engine for fast inference.
- Leveraged **reflection removal** techniques and **video stabilization** using deep learning to improve data quality.

PROJECTS

- Smol-GPT: Built and trained a **GPT2** like model (22M parameters) on WikiText3 dataset from scratch. Understood **Casual Self-Attention.**
- Speaking Doc**:** Deployed full stack **RAG + LLM** app, where users can chat with any document. Used **Mistral 7B model** and **Langchain.**
- Building Area Estimation using Deep Learning (Research Paper): Compared different semantic segmentation models on detecting buildings from satellite images. Published a research paper and led the project.
- Handwritten digit generator using GANS: Trained **generative adversarial networks** on MNIST dataset to generate fake handwritten digits.
- AGV simulation (for Eyantra): Autonomous, **obstacle avoiding robot** with the ability to identify, pick and place objects.
- Video game automation using OpenCV: Automated a racing game called Trackmania using **OpenCV** by detecting the lanes.
- Exercise rep counter using OpenCV: Used mediapipe's **pose estimation** and opencv to make a rep counter for a knee bend exercise.

SKILLS

Programming Languages: Python, C/C++ , Java (basic)
Methodologies & Technologies: Data Structures, Algorithms, Statistics, Machine Learning, Neural Networks, Deep Learning, Computer Vision, Generative AI, Natural Language Processing (NLP), Large Language Models (LLMs), Transformers, Time-Series Forecasting
Softwares/Frameworks: OpenCV, Tensorflow, PyTorch, fast.ai, Scikit-Learn, NumPy, Pandas, Matplotlib, Git, ROS, Android Studio, Docker, HuggingFace, Excel, Power BI, Langchain, Llama-index.
Operating Systems: Linux, Windows

EDUCATION

Year	Degree	University/School	CGPA/PERCENTAGE
2019 - 2023	B.Tech (Electronics and Communication Engineering)	Bharati Vidyapeeth's College of Engineering, New Delhi	8.81 CGPA
2018 - 2019	12th grade (CBSE)	Bal Bharati Public School, GRH-Marg, New Delhi	93%

CERTIFICATIONS AND ACHIEVEMENTS

- **Generative AI with Large Language Models** - *Coursera*
- **Build Basic Generative Adversarial Networks (GANs)** - *Coursera*
- **Deep Learning Specialization (5 course series)** - *Coursera*
- **Certificate of Completion** - *e-Yantra Robotics Competition (eYRC) 2020-21*

COMMUNITY INVOLVEMENT

IEEE Student Branch - Chairperson of BVPIEEE-RAS (Robotics and Automation Society) **07/2021-07/2022**

- Led a team of robotics enthusiasts to organize robotics and computer vision related workshops and competitions.