Mohan Borle
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Profile Summary

- Motivated B.Tech graduate in Information Technology with strong foundation in backend development, cloud infrastructure tools, and **AI/ML** workflows. Proficient in **Python**, **Docker**, **REST APIs**, **PyTorch**, and **OpenCV**.
- Proficient in **Python**, **PyTorch**, **Docker**, and **REST APIs**, with experience in developing and fine-tuning deep learning models.
- Eager to pursue a career in **AI/ML engineering** where I can continuously learn, innovate, and contribute to real-world problem-solving.

Skills

- **Languages: Python**, Core Java
- **Web & Backend:** Flask, Django, Rest API, JS, ReactJS, **NodeJs, NextJs, ExpressJs**
- **AI/ML & Data Tools: PyTorch**, TensorFlow, Open CV, **Pandas, NLP, GenAI, Transfer Learning**
- **Databases:** MySQL, MongoDB
- **Tools: AWS, Docker, Git**, GitHub, **Hugging Face**
- **IDE:** VS Code, Google Colab, Eclipse, Project Idx, IntelliJ Idea

Projects

- **Fine-Tuning Large Language Models with LoRA [** *Python,* ***PyTorch, ML, Transfer Learning*****]**
  - Fine-tuned a pre-trained LLM (Gemma) using **instruction-tuned custom datasets** to enhance performance on domain-specific tasks.
  - Applied **LoRA (Low-Rank Adaptation)** via the **PEFT** library to optimize memory and computation during training.
  - Built a complete training pipeline using **Hugging Face Transformers**, including model loading, dataset processing, and training.
  - Performed **data cleaning, formatting (JSONL)**, and **tokenization** with custom prompt templates for instruction-based learning.
  - Conducted post-training **inference testing and evaluation**, measuring qualitative improvements in generated outputs.
  - Utilized **Google Colab with GPU acceleration** for model fine-tuning and evaluation cycles.

- **Real Time Crowd Counting [***Python,* ***OpenCV, PyTorch, Cuda, Deep Learning*****]**
  - Designed and implemented CDENet, a modified VGG16-based deep learning model tailored for crowd density estimation and counting tasks.
  - Reduced model complexity by modifying **VGG16** to a leaner 10-layer architecture, optimizing for efficiency and performance.
  - Developed a real-time testing system using **OpenCV** for live crowd density estimation, enabling applications in security and event management.
  - Authored and maintained modular Python code for seamless integration with PyTorch, promoting reusability and scalability.
  - Preprocessed and annotated datasets, ShanghaiTech for generating ground truth density maps.

Experience

- **Web Developer Intern**
  - **Real Tech Pvt. Ltd. [Aug 2024 – Jan 2025]**
  - Developed and maintained responsive, user-friendly web pages using HTML, CSS, JS and React.
  - Collaborated with a team of developers and designers to enhance website functionality and improve user experience.
  - Key Technology: **HTML5, CSS, JS, ReactJS, Git, REST APIs, VS Code**.

Education

- **Bachelor of Information Technology (Data Science)** 2020-2024
  - Ajeenkya D Y Patil University
  - CGPA: 8.22

- **HSC** 2019-2020
  - Chate School & Jr. College
  - Percentage: 68.60%

Certifications

1. **Introduction to PyTorch (Udemy):**
   - Gained hands-on experience with PyTorch for deep learning, including tensor operations, autograd mechanics, and computation graphs.
   - Built and trained models using PyTorch's training pipeline, with applications in computer vision.
2. **Mastering Docker for DevOps (Udemy)**
   - Acquired in-depth knowledge of Docker, including containerization, Dockerfiles, volumes, and custom networking.
   - Built and deployed real-world containerized applications using Docker Compose.
3. **Full Stack Developer (Seed Infotech):**
   - Acquired in-depth knowledge of Frontend and Backend Frameworks including **ReactJs, NodeJs, ExpressJs**, **SpringBoot**.
   - Gained Knowledge on **SQL(MySQL)** and **NoSQL(MongoDB)** databases.