Darpan Jain

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EDUCATION

Master of Science, Electrical and Computer Engineering, University of Southern California — May 2023
  - Specialization in Machine Learning and Data Science — GPA - 3.92

Bachelor of Engineering, Electrical Engineering, Pune University — Apr 2018

TECHNICAL SKILLS

Languages: Python, R, C++, Java, SQL, Scala, GoLang, JavaScript

Machine Learning & Ops: PyTorch, Tensorflow, Scikit-learn, Sagemaker, NLTK, SpaCy, Gensim, CoreNLP, Hugging Face Transformers, FastText, CUDA, MLFlow, Kubeflow

Frameworks/Technologies: Git, Docker, Kubernetes, Terraform, Jenkins, Linux, AWS, GCP, Azure

Databases & Monitoring tools: MySQL, PostgreSQL, MongoDB, Cassandra, Hadoop, Spark, Flink, ElasticSearch, InfluxDB, DynamoDB, Kafka, Redis, Splunk, Datadog

WORK EXPERIENCE

Information Sciences Institute, **Applied Research Assistant** — Jan 2022-Present
- Led the development of conflict resolution dialogue agents for DARPA's Civil Sanctuary program as an Applied Researcher at the Natural Language group (CUTE LAB NAME) at ISI.
- Designed and deployed a scalable NLP-powered dialogue agent for mitigating toxic behavior on social media using non-violent communication strategies, including controlled text generation utilizing GPT-3.5's advanced transformer-based language generation capabilities and prompting techniques.
- Moderated over 15k posts with an 85% true positive rate in French and German on popular subreddits.

Lumin.ai, **Software Development Intern** — May 2022-August 2022
- Contributed in developing the conversational AI for Lumin.ai as a Smart Scheduler & Sales Accelerator to enhance customer interactions and optimize the sales funnel for 5+ product and franchise owners.
- Advocated for efficient documentation using Markdown and managed customer interactions for multiple clients.

Warner Bros Discovery

- **Software Development Engineer - Machine Learning** — Sep 2020-Aug 2021
  - Boosted user engagement on Discovery Plus (D+) as part of the "Personalization and Recommendations" team.
  - Employed Apache Spark and Airflow to build efficient ETL pipelines in a distributed environment, and executed A/B tests to validate and refine new recommendation features for the D+ platform.
  - Led the development of server-side ad-insertion SDKs for Android and Web, driving increased ad revenue for D+ sports content.
- **Machine Learning Engineer**, (formerly AdSparx Inc.) — Mar 2019-Sep 2020
  - Led the research, design, and development of MiDAS, a micro-service-based system serving personalized ads to millions of users on OTT platforms.
  - Designed and trained Computer Vision models with TensorFlow, deployed on Kubernetes to enable dynamic server-side ad insertion for 40+ channels, boosting revenue for US publishers.
  - Member of the senior development team at AdSparx was acquired by Warner Bros Discovery in September 2020.

IoTIoT, **Machine Learning Engineer** — May 2018-Jan 2019
- Led a team of 30 to deliver AI-on-Edge applications for Embedded Linux platforms. Developed a crowd flow analysis product using face and voice recognition for event registration, optimized for on-chip GPUs to showcase AI-on-Edge computing capabilities.

CONSULTING EXPERIENCE

Machine Learning Lead, Defeat Covid-19 — Mar 2020-May 2020
- Co-founded a non-profit aimed at providing support to authorities and the public during the Covid-19 pandemic, with features such as real-time monitoring dashboards, identification of high-risk areas, and a multilingual QA chatbot.

Artificial Intelligence Consultant, Prasaurus Sports Analytics — Jun 2019-Aug 2019
- Spearheaded the development of a Badminton analytics system to provide in-depth game analysis, using activity recognition and player tracking to produce player heat-maps and dominant areas metrics.

Computer Vision Engineer, Occipital Tech — Feb 2019-Mar 2019
- Developed real-time image pre-processing solutions using Background Segmentation methods to enhance blurry and under-lit images.
- Achieved 14-15% noise reduction and 25% improvement in image pre-process time, delivering high-quality results.

PUBLICATIONS

Design and Development of Textrode Based ECG Monitoring System
- Designed and integrated wearable technology using high precision instrumentation amplifiers and gel-free textile electrodes for round-the-clock ECG monitoring, with QRS complex logging and alerting system, funded by the Government of India C-MET and currently patent pending.