

# 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 - 4.0  
**Bachelor of Engineering, Electrical Engineering**, Pune University Jul 2018

## WORK EXPERIENCE

Information Sciences Institute, **Applied Research Assistant** Jan 2022-Present

- Led 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.
- Delivered a scalable dialogue agent for moderating toxic behavior on social media platforms through non-violent communication techniques and GPT-3 controlled text generation.
- Moderated over 15k posts with 85% true positive rate in French and German on popular subreddits.

Lumin.ai, **Software & Product Development Intern** May 2022-Present

- Implemented conversational AI for Lumin.ai as a Smart Scheduler & Sales Accelerator to enhance customer interactions and optimize the sales funnel for product and franchise owners.
- Designed and developed a highly effective solution that streamlines customer interactions, resulting in increased sales for 5+ product and franchise owners.

Discovery Inc. (now Warner Bros Discovery)

- Software Development Engineer** Sep 2020-Aug 2021
  - Boosted user engagement on Discovery Plus (D+) as part of the "Personalization and Recommendations" team.
  - Employed frameworks such as Airflow and Apache Spark for interaction data, and run A/B tests for new features for new recommendation rails on D+.
  - Led the development of server-side ad-insertion SDKs for Android, iOS, and Web, driving increased 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 that 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.

## TECHNICAL SKILLS

**Languages:** Python, GoLang, Java, R, JavaScript, Scala, Julia, C, C++, HTML/CSS, MATLAB, Embedded C

**Frameworks/Technologies:** Flask, Django, Git, Hadoop, Docker, Kubernetes, Jenkins, Airflow, Tableau

**Machine Learning Frameworks & Ops:** Tensorflow, PyTorch, PySpark, OpenCV, CUDA, NLTK, SpaCy, Transformers, SageMaker, Kubeflow, MLFlow, TensorRT, TFLite, MXNET

**Databases:** MySQL, Redis, Hadoop, MongoDB, Elasticsearch, Kafka, InfluxDB, Spark, Splunk, Datadog, AWS Kinesis