

# 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, Electronics and Telecommunications**, Pune University Jul 2018

## WORK EXPERIENCE

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

- Working with the Natural Language group at ISI, for the DARPA Civil Sanctuary Program.
- Building dialogue agents to moderate toxic and malicious acts on social media sites like Reddit and Twitter.

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

- Developing Lumin.ai's conversational AI through a Smart Scheduler to handle customer interactions; enhancing the sales funnel for product owners.

**Software Development Engineer**, Discovery Inc. Sep 2020-Aug 2021

- Worked in the Personalization, Recommendations, and Search team to drive user engagement on Discovery Plus (D+).
- Employed frameworks such as Airflow and Apache Spark for interaction data, and run A/B tests for new features.
- Team lead for developing SDKs to enable server-side ad-insertion on Android, iOS, and Web for D+.

**Machine Learning Engineer**, AdSparx Inc. Mar 2019-Sep 2020

- Spearheaded research, design and, development of a micro-service-based system: MiDAS (Midroll Ad Detection and Splicing) to serve personalized ads to millions of users over OTT platforms.
- Built and trained Computer Vision models on Tensorflow and deployed using Kubernetes, for 40+ channels to enable dynamic server-side ad-insertion for publishers in the US.
- AdSparx was acquired by Discovery Inc. in September 2020.

**Computer Vision Engineer**, Occipital Tech Feb 2019-Mar 2019

- Researched and implemented real-time image pre-processing for blurry and under-lit images using Background Segmentation methods.
- Results achieved 14-15% noise reduction with a 25% improvement in image pre-process time.

**Machine Learning Engineer**, IoTIoT May 2018-Jan 2019

- Led a team of 30 for catering applications with AI-on-Edge capabilities for Embedded Linux platforms.
- Developed product for automated crowd flow analysis at events and meetups for event registration using face and voice recognition. Utilized and optimized the use of on-chip GPUs to demonstrate on-Edge computing capabilities.

## CONSULTING EXPERIENCE

**Machine Learning Lead**, Defeat Covid-19 Mar 2020-May 2020

- Co-founded a not-for-profit to aid the authorities and public during the Covid-19 pandemic.
- Features included real-time dashboards, identifying at-risk localities, and QA chat-bot with support for local languages

**Artificial Intelligence Consultant**, Prasaurus Sports Analytics Jun 2019-Aug 2019

- Led the development of an Analytics system to generate analysis on Badminton games.
- Performed Activity Recognition and Player Tracking to yield metrics such as 'Player Heat-maps' and 'Dominant Areas'.

**Machine Learning and Strategic Consultant**, InProspect Technologies Mar 2019-May 2019

- Managed a team to build academic recommendation engines, to achieve student-specific career goals by suggestions for coursework selection and extra-curricular activities, among others.

## PUBLICATIONS

### Design and Development of Tetrode Based ECG Monitoring System

- Designed and integrated high precision instrumentation amplifiers and notch filters with dry (gel-free) textile electrodes to build wearable technology. Implemented for round-the-clock electrocardiogram monitoring and logging the QRS complex, complete with an alerting system.
- The research project was funded by the Government of India under Center for Materials for Electronics Technology (C-MET) and, is currently patent pending.

## TECHNICAL SKILLS

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

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

**Machine Learning Frameworks:** Tensorflow, PyTorch, TensorRT, TFLite, MXNET, PySpark, OpenCV, CUDA, Librosa, NLTK, SpaCy, OpenNLP

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