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📷 Sriharsha-hatwar

Publications

- Accepted publications
 - * Prajwal Chandrashekaraiah, Pranav kashyap, **Sriharsha Hatwar**, Srinivasa Murthy.
Lead Artist Identification from Music Videos using Auto-encoders [\[LINK\]](#)
Symposium on Machine Learning and Metaheuristics Algorithms, and Applications (SoMMA 2019)
- Unpublished work
 - * Jean Michel Amath Sarr, **Sriharsha Hatwar**, Christophe Cambier
Benchmarking Out of Distribution Risk Estimators as Ranking Models [\[LINK\]](#)

News

- (Jan, 2022) Presented our findings on **Debugging Data augmentation for Domain generalization** with future research direction at the *Research Jam 6* of ML Collective. [\[RECORDING-LINK\]](#)
- (Aug, 2021) My task on ‘**Figure of speech detection**’ has been accepted at GoogleAI’s **Big Bench** [\[LINK\]](#).
- (Aug, 2021) Came in **top 13%** in the Competition organized by Kaggle - **CommonLit Readability Prize**
- (Jan 2021) My notes on different research papers are up and visible on my blog. [\[LINK\]](#)
- (Dec, 2020) Xperi Hackathon 2020 - Popular choice award - Team **Xvision** (Prize money 25,000 INR)
- (Jun, 2020) Attained **bronze medal** for **top 8%** private leader board in the Kaggle competition - **Tweet Sentiment Extraction** - (176th /2227 teams) [\[KAGGLE-PROFILE-LINK\]](#)

Skills and Technologies

- **Programming Languages:** Python, Java, Haxe, C++, C, Javascript
- **Databases & Tech Stack:** MySQL, PostgreSQL, Redis, PyTorch, HuggingFace, Scikit-learn, Pandas, Flask, Splunk
- **Build / Version control:** Git, Perforce, Gradle

Professional experience

Tivo (Part of Xperi)

Software Engineer

July 2019 - Present

- Working on UI Enhancement, features, and bug fixes in the core UI/UX team that drives features for the latest Tivo products. [Linux STBs and recently launched streamers]
- Implemented Retry mechanism for IP Linear playback for streamers and built Splunk dashboard for monitoring.
- Redesigned and implemented Deeplinking of assets in streamers to third-party apps using Android Intent API.
- Involved in implementation of Subscription management for MSO operators.
- Redesigned TvBeacon Service for in-home device communication and reduced the round trip between mini and host STB for the latest Series 7 Set-top-boxes impacting 10k+ in-home devices.

Associate Software Engineer

July 2018 - July 2019

- Exposed to haxe cross-compiler toolkit, allowing one to target both Linux STBs (C++) and modern android based (Java) app for streamers.
- Redesigned UI Progress bar widget across screens, worked on automation tool for sending release notes, perform cherry-pick using a web-based interface.
- Implemented the HPK logging for the Bluetooth-based remote for enhancing debugging.
- **Languages and Tech Stack** : (Haxe, C++, C, Python, Java - Android, JS), (Postgres, splunk, Flask, Ssqlalchemy, bootstrap)

Veveo (Subsidiary of Tivo)

Software Engineering Intern

Jan 2018 - Jun 2018

- Worked on extracting metadata information from category section in wiki articles and enhanced metadata on media entities by around 3% overall.
- Implemented a rule-based engine to mine information. Later, parallelized the creation of the Knowledge Graph(KG) by utilizing map-reduce pipelines.
- Enhanced the Knowledge Graph(KG) by utilizing smart tags for each entity by exploiting the parent-child relationship between category nodes, created the complete KG by following the two-pass mechanism.
- **Languages and Tech Stack** : Python - Spacy, NLTK, Scipy, numpy; HTML, Bootstrap, JS.

Volunteering

ML Collective (Formerly DL Collective)

Research member

June 2021 - Present

- A non-profit ML research organization, where I am researching on building robustness machine learning models.
- Currently researching on providing an upper bound on generalization for Image data during distribution shifts.
- Worked on blog post submission for ICLR 2022. Presented the submission in one of the weekly presentation in the NLP-Reading-group.
- Assisted Dr. Rosanne Liu in solving a bug in the ML Collective website, later provided a proper fix. [\[LINK\]](#).

In progress Projects

This indicates the work towards publication that is in progress as a member of ML Collective.

Debugging Data augmentation for Domain generalization

Aug 2021

- This project started as an RFP (Request for Plot), an initiative led by DEI at ICLR 2022. I am working on robust machine learning methods in collaboration with [Jean-Michel Amath Sarr](#), a Ph.D. student. Additionally, researching on calculating the best possible distance metric between similar datasets (but different distribution) to provide an upper bound on generalization for distribution shifts.

Projects

This section contains selected projects and their brief description. More projects and detailed information at [\[LINK\]](#).

Tweet Sentiment Extraction

Mar - June 2020

- This research competition involved extracting the **sentiment-causing span** of text from a tweet given text and sentiment of the tweet. Experimented with several transformers and RNN architectures with different pretraining methodologies, added 1-D conv layer on top of transformers. Result : Top 8% and a bronze medal in Kaggle. **Jaccard Score : 0.7175.**
- **Tags : NLP, Transformers, RNNs, transfer-learning, QA Task, Pytorch, HF transformers**

Clothing Fashion Extraction from Video Songs

Jan - May 2018

- This project involved extracting clothing fashion items from the lead artist. Involved Identifying frames containing people, creating a face-body mapping, Identifying lead artists using auto-encoders (Accuracy: 70%). Finally used trivial Image processing methods like *minimum spanning tree segmentation*, *background elimination* to extract clothing.
- **Tags : Computer Vision, Deep learning, Auto-Encoders, Clustering, segmentation, Python-Keras**

FLYLY - A Web based chat application

Mar - May 2017

- Implemented a chat-based application similar to slack. Utilized socket.io for the real-time push of messages from Node.JS backend. Used a MySQL DB for storing and retrieving chat history.
- **Tags: Web-based application, NodeJS, MySQL, socket.io, Bootstrap.**

Education

PES University (Formerly PESIT)

July 2014 - Aug 2018

B.Tech in Computer Science (Specialization in Data science)

Bangalore, India

Honors: First Class with Distinction (CGPA : 8.71)

Major courses undertaken: Data Structures, Operating Systems, Analysis of Algorithms, Algorithms for Information Retrieval, Social Network Analysis, Natural Language processing, Digital Image processing.

Sri Aurobindo Pre University

June 2012 - Apr 2014

Pre-University Education, Class 12th (581/600 - 96.84%)

Shimoga, India

Sandeepani High School

June 2009 - Mar 2012

Secondary Education, Class 10th (609/625 - 97.44%)

Shimoga, India

Other Achievements

- **Distinction Award** - Have been awarded the distinction prize in all eight semesters during my undergrad.
- **522nd rank** (out of 150,000 people) in Karnataka-CET examinations which secured me a spot in PES University.

Certifications

- Deeplearning.ai courses : *Neural networks and Deep learning*, *Structuring Machine learning projects*, *Improving Deep Neural network hyperparameter tuning*, *Regularization and Optimization*, *Convolutional Neural Networks*, *CS224N: Natural Language Processing with Deep Learning*
- Certificates of the above courses - [\[Certificate - 1\]](#), [\[Certificate - 2\]](#), [\[Certificate - 3\]](#), [\[Certificate - 4\]](#)