

Sriharsha Hatwar

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📷 Sriharsha-hatwar

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)

News

- (Sep, 2021) Our initial idea on **Data augmentation for modality agnostic out of distribution generalization** has been awarded 500\$ credit by **ICLR 2022 DEI Program**.
- (Aug, 2021) My task on **Figure of speech detection** has been accepted at GoogleAI's **Big Bench**.
- (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, C++, Haxe, C, Java, Javascript
- **Databases & Tech Stack:** MySQL, PostgreSQL, Redis, PyTorch, HuggingFace, Scikit-learn, Pandas, Flask, Splunk

Professional experience

Xperi (Formerly Tivo)

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 soon to launch 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 10,000+ 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 working on two collaborative projects.
- Working on researching robust methods for Out of distribution generalization. Additionally, working on blog post submission for ICLR 2022 in collaboration with the Natural-language-processing-subgroup.
- 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.

Data augmentation for modality agnostic out of distribution generalization

Aug 2021

- This research started as an RFP (Request for plot), in an initiative led by DEI at ICLR 2022. I am collaborating with a Ph.D. student. We are working on finding the efficacy of AugMix during data distribution shifts irrespective of the modality. Currently working on WILDS and Domainbed datasets for OOD environments. [LINK]
- **Tags :** (OOD, Robustness in Deep Learning models), (Pytorch, HF transformers, nlpaug, PIL)

Blog post on "CoCon: A Self-Supervised Approach for Controlled Text Generation"

Nov 2021

- Working on creating a blog post for the previous ICLR accepted publication "CoCon: A self-supervised Approach for Controlled Text Generation" as a part of **Blog Post Conference Track** involving a double-blind peer review.
- **Tags :** (Conditional Language modeling)

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.

Finding Semantic similarity between sentences

Mar - Apr 2017

- This is an implementation of a research paper where it computes the similarity between short sentences using a semantic knowledge base. Also, uses word order information implied in the sentences for the final score. [PAPER-LINK]
- **Tags :** Semantic-knowledge-base, NLTK, Python

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]