M SNishanth

Contact

msnishanth9001.github.io

Kanniyakumari,
Tamil Nadu, India

+91-8433775541

msnishanth9001@gmail.com

Languages

Tamil, English, Hindi, Malayalam

Programming Languages

♥ C, C++, Python
Ansible, PHP, Rust, JSP, LaTeX

Education

2020– . **Software Engineer** at F5 — Hyderabad, India

2018–2020 **Master's** in Computer-Science & Engineering — IIT Hyderabad

2013–2017 **Bachelor's** in Computer-Science & Engineering — UCET, Tindivanam

Interests

DNS
Using novel techniques and engineering principles for optimized Performance, Security and Privacy for DNS resolution.

Machine Learning
Utilizing ML models to simplify otherwise complex problems for computational methods.

Security
Exploring security vulnerabilities in the Network.

Skills

PROGRAMMING
Skilled in C, C++ and able to adapt quickly to new languages. Languages I have used over the years include Rust, Python, JS, Ansible.

FRAMEWORK
DNS, TCP/IP, Pytorch, Perforce, Git*, Mlflow*

TOOLS
Wireshark, Vim, GDB, VSCode, Postman, Numpy, SciKit, Pandas, Matplotlib, LaTeX.

Projects

Jun–Aug'19 **Structured Optimal Transport [OT]**
A method to include structural information in OT. Applying this for Colour Transfer problem which is quite similar to Style Transfer problem. We achieve this by using a sub-modular function on the combined structural information from segmentation on images and the distribution of colours in images. This can be further extended to language modelling or the OT itself could be used as a cost metric in different scenarios. Ex- French to English translation without knowing the word-meaning.

Jan–Apr'19 **Super SloMo: High Quality Estimation of Multiple Intermediate Frames for Video Interpolation.**
Intermediate frames are generated for each pair of frames in the original video hence producing good slow motion video experience while preserving the original information of objects in the video without pixelating. For this optical flow information is determined using a U-Net architecture. This information is passed to a CNN which uses a backward warping bi-linear function, time-flow interpolation and masking this with the visibility maps of the pair of source frames intermediate frames are generated.

Jan–Apr'19 **Functional Matrix Factorization for cold start Recommendation.**
We use Matrix factorization for Collaborative Filtering & Decision Tree based interview model. A function of user's answers to the interview question is used to generate the user profile. The opinion of users is recorded by basic questions. Based on the responses to the questions, the characterisation of the user is gradually refined. Both user and item profiles are to be learnt using Iterative Optimization which alternates between the decision tree construction user profile and latent profile extraction.

Aug–Nov'18 **Link prediction in Bipartite Graphs.**
For any graph or community that can be represented by a graph, If it can be converted to a Bipartite graph the link prediction can be done more effectively. For these features of the graph is identified and is converted to a Bipartite graph then, a unipartite projection of the graph is made. Using this candidate node pair (CNP) and patterns is defined on the projected graph. The connectivity of the CNP is calculated based on the weight of the patterns it covers. Such connectivity of the CNP is used as the final score of link prediction.

Aug–Nov'18 **Hierarchical approach to mutual exclusion in Distributed Computing**
An efficient implementation of a hybrid mutual exclusion algorithm for distributed systems by combining Raymond's and Maekawa's algorithms by multiplexing between them when communicating within clusters and across clusters, based on load, latency and throughput. As part of the course project for Distributed Computing- CS5320.

Aug–Nov'18 **Irony detection in English tweets**
Identification of Lexical features [characteristic of the tweet], Syntactic features [entity relationship], Sentiment features [lexicon and polarity by existing dictionary], Semantic features [word embedding] was used to understand the characteristics of tweet. Using these features an SVM based classifier was used to detect Irony.

Aug–Nov'18 **Recommendation System**
Using Latent Dirichlet allocation, latent profile for each user and latent profile for movie-genre is generated. Using this the affinity of a user towards the set of genres of movies and each movie is calculated.

Co-Curricular

Aug'22 – * **Security Ninja Team**
Responsible for TMA to materially help with F5's SDLC by helping teams write and perform TMAs and advocate for secure design.

Feb'21 **Be-F5 Day Organizing Committee**
Shared responsibility in organizing team of #BeF5 day to conduct various events and sole responsibility of making and production video-premiere for the Event.

2018–2020 **Teaching Assistant at IIT Hyderabad**
TA for course works on ML taught by Professors, where the role involves creating, grading and evaluating assignments.

Feb'20 **Organizing Committee of CALDAM'20**
The International Conference on Algorithms and Discrete Applied Mathematics was held at IIT Hyderabad, shared various responsibilities in organizing Conference successfully.

2015–17 **Graphic Designer- Head at CETA Club**
Responsibility to Create Brochure, Flux poster designs & Website and it's maintenance for all Symposium, Conference and other Events conducted by the CETA Club and the Department of CSE at UCET through 2015-2017

2016–17 **Secretary of CETA Club at UCET**
Responsibility of Conducting and Managing all the events(Symposium, Conference and other Events) organized by the CETA, the official Club of Department of CSE at UCET.

2015–16 **Treasurer of CETA Club at UCET**
Financial Responsibility for all the events(Symposium, Conference and other Events) organized by the CETA, the official Club of Department of CSE at UCET.

Hobbies

Gaming
Competitively play MMORPG games, and also design games. Football.

Photography
Nature photography. (still learning the curves :D)

Aquascaping
Enjoy creating and maintaining nature Aquascapes -Fresh Water.

Books/ Manga
Interested in Comics, Books and Novels on SciFi/ Fiction.