CONTACT
INFORMATION

Sobha Dahlia
GreenGlen Layout, Bellandur
Bangalore, India - 560103

pushkar.nagar09@gmail.com
LinkedIn GitHub
Mobile: +91-7879777957/9479917615

EXPERIENCE

- **Senior System Software Engineer (Machine Learning) - Nvidia** *Nov 2020 - Present*
  Part of Nvidia Metropolis Team, working on traffic use case to detect anomalies from real time video streaming meta data in unsupervised setting.
  Joint Learning, Transformers
- **Data Scientist III (Applied Machine Learning) - HP R&D** *September 2017 - Nov 2020*
  I am working in AI India group to create predictive models for large scale industrial printer failures.

  – Predicting part failure for large scale printers: Utilized Auto Encoder based time series feature representation and used LSTM for prediction task for complex Non-uniform Time Series data.Currently Multiple Instance Learning (MIL) based hybrid "sequential" loss method has been developed for part failure prediction where interventions are terminal, irreversible and expensive.

  – Generated set of rules which explains the abnormal behavior of Indigo printers. Implemented Maximum Likelihood Rule Ensemble model which belongs to family of boosting methods.

  – NLP based chatbot using unstructured agent case notes: Analyzed and transformed the unstructured case notes into labelled data to leverage language models for troubleshooting printer related problems.

EDUCATION

- **Master of Engineering in System Science & Automation(AI Program)**
  Indian Institute of Science, Bangalore *Aug 2015 - June 2017* **M.E.**
  Thesis Advisor: Prof. Chiranjib Bhattacharyya

- **Bachelor of Engineering in Computer Science** *Sept 2011 - May 2015*
  Institute of Engineering and Technology DAVV, Indore

PRE-PRINTS OR
RESEARCH WORK

- **Learning and Evaluation of Terminal Intervention Policies for Critical Events**: *(Pushkar Nagar, Imbesat Hasan Rizvi, Niranjan-Damera Venkata, Chiranjib Bhattacharyya(IISc))*

  Time dependent Multiple Instance Learning (MIL) based hybrid "sequential" loss has been proposed in which only the first intervention prediction counts.

- **Learning with Noisy Labels with Meta Learning Approach**: Worked on deep learning models in the presence of noisy labels. Investigated and implemented Meta Learning based method, data augmentation based robust learning methods.

RESEARCH AND COURSE PROJECTS	• **Temporal Topic Models for streaming data with Topic Influence Network**: *(M.E. Thesis Project, Guide: Prof. Chiranjib Bhattacharyya, May'16 - July'17)*

- **Temporal Topic Models for streaming data with Topic Influence Network**: *(M.E. Thesis Project, Guide: Prof. Chiranjib Bhattacharyya, May'16 - July'17)*
  - Objective : Clustering in document streams such as online news articles, twitter streams can be induced by their textual contents as well as by the temporal dynamics of their arrival patterns. Implemented Non-Paramteric generative model which consists of Multi-Variate Hawkes process and Dirichlet Process/Chinese Restaurant Process.

- **Distributed Optimization of Support Vector Machines**
  (Machine Learning course project, Guide:Prof. Chiranjib Bhattacharyya, March'16 - April'16)
  - Objective : Implemented Efficient Box Constrained Quadratic Optimization Algorithm for SVM on Cray XC40 system(super computer) and compare it with other algorithms over large datasets.

- **Face Expression Recognition from Images**
  (Data Analytics course project, Guide:Prof. Ramesh Hariharan, Prof. Rajesh Sundaresan , August'16 - December'16)
  - Objective : Worked on multi class classification problem to classify the images into 7 categories namely Disgust, Surprise, Happy etc. We have explored the different methods for featurization of facial images which is an important aspect in face recognition. Implemented Naive Bayes Classifier, Support Vector Machines and compared their results.

- **Reconstruction of Partial Occlusion found in Images**
  (Machine Learning for Signal Processing , Guide:Prof. Sri Ram Ganapathy , August'16 - September'16)
  - Objective : To reconstruct the partial occlusion found in images by estimating basis matrix with the help of Training data. Non-Negative Matrix Factorization algorithm is used for this task.

- **Fair Allocation in Cloud Computing**
  (Game Theory course project, Guide:Prof. Siddharth Barman , March'16 - April'16)
  - Objective : To use the inherent assumptions of Cloud Computing environments and come up with an algorithm for special cases for fair allocation of resources, since fair allocation is computationally NP-hard in case of indivisible resources.

- **Data Analytics**
  (Data Analytics , Guide:Prof. Rajesh Sundaresan , August'16 - September'16)
  - Worked on different types of varied domain specific datasets like Mars orbit data, medical data etc. to understand the insights present in data.

TECHNICAL SKILLS

- **Machine Learning:** Classical Machine Learning, Deep Learning, Natural Language Processing.

- **Programming Skills:** Python, C, C++, Pytorch, Keras, LaTeX.

GRADUATE COURSES

- **Theoretical and Systems:** Data Structures and Algorithms, Operating Systems..

- **Intelligent Systems:** Machine Learning, Data Mining, Computational Methods of Optimization, Linear Algebra and Its Applications, Stochastic Models of Applications(Probability), Reinforcement learning, Dynamics of Linear System, Game Theory, Data Analytics.

ACHIEVEMENT:

- Secured 2nd position in coding competition at IIPS, Indore, Madhya Pradesh.
- Represented IET-DAVV in **ACM-ICPC** (International Collegiate Programming Contest) at **Kanpur onsite regionals 2013** and at **Amritapuri onsite regionals 2014**.
- Member of winning team in Inter Departmental Coding Competition, IET-DAVV Indore.

ORGANIZATION ACTIVITIES:

- Organized an inter-college programming competition event **"Smart Coding"**-2013.

REFERENCES:

Available upon request.