Arunav Shandeelya

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EDUCATION

IIIT BHUBANESWAR

B.Tech in Electrical & Electronics Engineering with minor Specialization in Computer Science
Aug 2015 - July 2019

LINKS

Website: **shandilya21.github.io**
Github: **shandilya21**
LinkedIn: **arunav-shandilya**

SKILLS

LANGUAGES

Python, C++, MATLAB Simulink

FRAMEWORKS AND STACKS

PyTorch, Tensorflow, Keras, Git, ElasticSearch, AWS (Sagemaker), Jupyter Notebook, Google Colab, PyCharm

OPEN SOURCE

mlpack [github.com/mlpack/mlpack]

(3000+ stars, 1200+ forks, 176+ contributors)
• Contributing • A fast intuitive open source C++ machine learning library • Part of the non-profit organisation NumFocus.

Few Shot Learning

[Shandilya21/Few-Shot]
• Implementation of Few shot, Zero shot learning algorithms such as Prototypical Nets, MAML, etc. to perform image classification using PyTorch.

Deliberation Networks

[github.com/Shandilya21/deliberation.ipynb]
• Implementation of ***NeurIPS*** paper "Deliberation Networks: Sequence Generation beyond One pass Decoding" ***(Xia,Yingce et.al)*** using PyTorch.

ACHIEVEMENTS

• Ranked **171/2000+** participant in **American Express** Machine Learning Hackathon.
• Ranked **200** out of **5.5K** in **Mckinsey Machine Learning** Hackathon.
• Ranked 18th/1500 in **Philips Innovations** Data Science Coding Hackathon with a score of 96.3/100.

EXPERIENCE

AI-NLP-ML, IIT PATNA | Research Assistant + Main Contributor

Supervisors: Prof. Pushpak Bhattacharyya , Professor IIT Patna
Prof. Asif Ekbal Associate Professor IIT Patna
Aug 2019 - May 2020
Led projects in the area of natural language processing especially in visual dialog, and multimodal representation learning. Worked on *Reinforcing Character Traits across Personalized Categories in Dialogue Agent*.

PRICEWATER HOUSE COOPERS | Internship

Pratik Goenka Principal Consultant, PwC India
May 2018-Jul 2018
• Worked in *Finance Cockpit*, a decision insight platform based on KPIs (Key Performance Indicators), by significantly improving the efficiency and decision strategy by applying machine learning algorithms.
• Introduced and implemented alert insight functionality such as trend alert, correlation breakdown, spike alert, etc.

XEROX RESEARCH | Internship

Jun 2016-Aug 2016
• A statistical machine learning model for detecting cancer using thermographic images. Contributed in data pipelines and model setup while studying classical ML algorithms such as SVM, PCA, ANN, FFT, etc.

ACADEMICS PROJECTS

GRADIENT ESTIMATION IN LOW ENTROPY | Mar 2020 | [Preview]

• Derive a policy gradient estimator for discrete random distributions using Rao Blackwellization of two existing gradient estimators, combine with REINFORCE for variances reduction in low entropy (low level uncertainty) NLP problems.

ATTRIBUTE CENTERED VISUAL DIALOG | Dec 2019 - Feb 2020

Supervisors: Prof. Pushpak Bhattacharyya Professor & Director, IIT Patna
• Developed a Transformer with GAN based network for an objective of generating images based on attributes in multimodal visual dialog setting. Used taxonomy attribute combined tree's for visual attribute combined with textual features through attention based factorized bilinear pooling approach for fine-grained representation.

INTERPRETABLE MULTIMODAL FUSION | Sept 2019 - Dec 2019

Supervisors: Prof. Pushpak Bhattacharyya Professor & Director, IIT Patna
• Developed a tensor fusion method in PyTorch using block-superdiagonal tensor decomposition, that allows to trade-off the unimodal expressivity and fusion complexity in the learned features.
• Demonstrated a superior performance over linear fusion for personality trait analysis on POM , and IEMOCAP datasets with three modalities, *viz.* textual, visual and acoustic.

PUBLICATIONS

ENHANCING PERCEPTUAL LOSS FOR SUPER RESOLUTION

IEEE International Joint Conference on Neural Networks (IJCNN),2020 | [Paper]
Authors: Akella Ravi Tej, Arunav Shandilya, S. Halder, V. Pankajakshan
• Proposes a novel framework for unifying adversarial and perceptual losses • Filters out the unwanted artifacts introduced by the perceptual loss • Stabilizes adversarial training.