Lakshwin Shreesha M K

BMS College of Engineering
shreeshalakshwin@gmail.com
https://niwhskal.github.io

RESEARCH INTERESTS

To formalize an explanatory theory of Intelligence.
Machine Learning, Neuroscience, Bio-chemistry, Physics, Psychology.

EDUCATION

BMS College of Engineering, Bangalore, India

B.E., Electrical and Electronics Engineering, April 2019
(first class with distinction)

PUBLICATIONS

Multi-PCA Driven Approach for Fault Detection and Root Cause Analysis of Process Equipment [1]
Jinendra K G, Rahul K. Vij, Srini .R, **Lakshwin Shreesha M. K**
AAAI Spring Symposium: Combining Machine Learning with Knowledge Engineering (1), 2020

RESEARCH EXPERIENCE

RIT, Rakuten Research Lab   **July 2019 to December 2019**
Bangalore, India

Contextual Embedding
Reasoning about an image by inferring relationships between objects.

- Developed a neural network that embedded representations of associated objects together in feature space.
- Tried to infer relationships using the posterior:
  $P(y = 2^{nd} object \mid x = 1^{st} object)$

Unsupervised image classification

- Developed an iterative, clustering based, image classification process for unlabelled images.
- Re-purposed Grad-CAM in the resulting classifier to localize the object of interest.

ABB Research Lab   **June 2018 to August 2018**
Bangalore, India

Fault detection using multiple principal component analysis

- Designed and published the Multi-PCA algorithm.

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[1]Blue links hyper-reference projects, research papers, and relevant institutions.

Traj2Vec: An Inverse Reinforcement Learning algorithm[2]
An algorithm that tries to learn a task by watching a human expert show it how.

- Ran analytical experiments on Apprenticeship learning and Guided cost learning in a custom environment to assess their strengths and weaknesses.
- Designed the CNN-autoencoder to spatially encode trajectories.

ENGINEERING
PROJECTS

- Open sourced an implementation of the paper *Editing text in the wild*: a scene text editing generative adversarial network. (2020)

- Built an Electric skateboard: Designed the radio controller and power delivery system. (2018)

AWARDS

- **Third place at AccelATHON**[3]: We leveraged a Resnet-101 to diagnose Diabetic Retinopathy. (2019)

- **First place at ABB Hackathon**: We developed a long range cloud based solution using LoRa to enable data transmission from remote villages. (2018)

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[2]A list of my projects (with code) can be found here: projects@notion.lakshwin
[3]An intercollegiate hackathon for social innovation.