Lakshwin Shreesha M K

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

RESEARCH INTERESTS
Biological Intelligence
Complexity, Machine Learning, Bio-physics.

EDUCATION
B.E., **Electrical and Electronics Engineering** (Distinction) **Aug 2019**
BMS College of Engineering,
Bangalore, India

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

POSTER PRESENTATIONS
Autonomous Navigation using Inverse Reinforcement Learning
Anirudh GJ, **Lakshwin S**, Bharath B, Siddharth S
REV2019: 16th International Conference on Remote Engineering and Virtual Instrumentation, 2019

RESEARCH EXPERIENCE
RIT, Rakuten Institute of Technology **July 2019 to December 2019**
Bangalore, India (Six months)

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.

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

ABB Research Lab **June 2018 to August 2018**
Bangalore, India (Three months)

Fault detection using multiple principal component analysis

- Designed and published the Multi-PCA algorithm.

UNDERGRADUATE RESEARCH

September 2018 to June 2019
(Ten Months)

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

PERSONAL PROJECTS

- Founded Dimension Labs: An open source venture to teach Machine Learning theory on twitter (2021)
- 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)

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