Piyush Malhotra

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Education

- **Amity School of Engineering and Technology** — Amity University, Noida, India
  Bachelor of Technology in Computer Science and Engineering; GPA: 7.14/10.0 — *July. 2014 – May. 2018*

Experience

- **Untrodden Labs** — New Delhi, India
  Machine Learning Intern — *June 2018 - Present*
  - **Research HVAC**: Apply Deep Reinforcement Learning Heating, ventilation, and air conditioning (HVAC) systems for consumption reduction.
  - **ThingsGoSocial**: Train, Tested and Deployed Non-Intrusive Load Monitoring (NILM) Deep Learning models. Current NILM system scores a - **30% MAPE score over test set**.
- **StarLight Academy** — New Delhi, India
  Machine Learning Instructor — *May 2017 - March 2018*
  - **Courses**: Taught courses like C/C++, Java and Python along with advanced courses like Machine Learning.
- **ISSA, Defence Research and Development Organisation (D.R.D.O.)** — New Delhi, India
  Summer Intern — *Summer 2016*
  - **Mission Simulator**: Made a Mission Simulator Editor to generate a mission simulation file that can be used to check the efficiency of the planned mission.

Projects

- **PSO For Neural Networks**: This was one of the many experiments I conducted for my final year thesis. Experiment tried to replace Gradient Descent with Particle Swarm Optimization (a meta-heuristics approach). Was able to classify two multivariate normal distribution with a **loss of 0.51** but failed on MNIST (hello world for deep learning)
- **Image Captioning**: Image captioning using TensorFlow and TensorFlow-hub with **test loss at about 0.71**
- **Facial Expression Recognition**: Facial expression recognition using Convolutional Neural Networks with **validation loss at about 1.14**
- **Neural Style Transfer**: Basic Neural Style Transfer using VGG-19 pre-trained model
- **For more projects visit my github account** : @piyush2896

Programming Skills

- **Languages**: Python, C/C++, Java **Basics**: SQL, Javascript, HTML/CSS
- **Libraries**: TensorFlow, Keras, PyTorch, Scikit-Learn, MatplotLib, Pandas, NumPy, OpenCV
- **Technologies**: AWS, Google Cloud (Compute Engine, ML Engine), Android Studio

Accomplishments

- **Research Paper Presentation**: Presented a paper **Parameter Estimation of Software Reliability Growth Models Using Krill Herd Algorithm** in Confluence 2017 - annual IEEE international conference held in Amity University, Uttar Pradesh, India.
- **Research Poster Presentation**: As part of final year thesis conducted a project based approach towards Meta-heuristics in Deep Learning and devised a **Neural Architecture Search using Meta-heuristics**. **Selected in top 10 posters at Department Level.**

Certifications

- **Deep Learning Specialization.** Certificate earned on April 04, 2018
- **Machine Learning Basic Nanodegree Udacity.** Certificate Earned on November 13, 2017.
- **Machine Learning by Stanford University on Coursera**. Certificate earned on January 18, 2017.