

NEHA DAS

Graduate Student in Computer Science

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ONGOING PROJECTS

Master Thesis

Learning state-space models of camera based drones for intrinsically motivated control

PAST PROJECTS

Dynamic Models with IAF

An architecture for modelling a dynamical system with Inverse Autoregressive Flow coupled with Deep Variational Bayes Filter.

(Slightly worse results than the then SOA for Inverted Pendulum Data but with reduced sampling complexity)

3D Human Body Segmentation

A novel method of performing Segmentation of a Human Body represented in 3D Point Cloud into constituent parts using an architecture inspired from Unet and MobileNet.

ICP Analysis

Implementation and analysis of Iterative Closest Point variants such as Projective Matching, Multiresolution Schema, Linearized ICP in C++

Neural Network Visualization using Guided Backprop

Implementation of a web interface that visualizes a deep neural network for protein structure prediction using guided backpropagation

Reimplementation of IWAE

Implementation and training of an Importance Weighted Autoencoder Network for generating MNIST data (achieved results from the paper by Burda et al.)

RGB to Depth

Implementation of an architecture inspired by "Learning fine-scaled depth maps from single RGB images" for extracting depth from RGB images

UNDERGRADUATE PROJECTS

Defending the Tower with the Bee Colony Algorithm

Implemented an interactive game environment and implemented the Artificial Bee Colony Algorithm for the player strategy to showcase its efficiency.

SKILLS

Python

C++

C

Javascript

MATLAB

Tensorflow

PyTorch

Django (Python)

Docker

EDUCATION

M.S in Informatik

Technische Universität München

Oct 2016 - Ongoing

Running Grade: 1.4

Relevant Courses

Machine Learning, Deep Learning in Computer Vision, 3D Scanning and Motion Capture, Variational Methods, Medical Augmented Reality, Cloud Computing

B.Tech in Software Engineering

Delhi Technological University

Aug 2009 - May 2013

First Division with Distinction

PROFESSIONAL EXPERIENCE

Research Intern

Volkswagen Data:Lab

June 2018 - Aug 2018

Munich, Bayern, Germany

- Setup the inference model for unsupervised control in an embedded system (Jetson TX1) using Tensorflow C APIs.
- Wrote a module for retrieving and appropriately formatting data from the IMX219 cameras attached to the Jetson Module using Video4Linux APIs

Working Student

Chair of Robotics and Embedded Systems, TUM

June 2017 - Mar 2018

Munich, Bayern, Germany

- Modelled various example Cyber Physical Systems using MATLAB and Simulink for class tutorials.
- Set up a website for one of the projects for the Chair (Django-python, Bootstrap CSS).

Software Developer

Epic Systems

Oct 2015 - Sept 2016

Madison, WI, USA

- Developed front-end (Javascript, CSS) and back-end (CSharp, Cache) code for Web-based applications.

Software Developer in Test

McAfee

July 2013 - Sept 2014

Gurgaon, India

- Debugged and Fixed critical issues including operating system crashes, performed white box testing for critical issues,
- Created a framework in C++ for stress testing the product