Anukool Purohit

Deep Learning Engineer

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https://anukoolpurohit.github.io/

PROFILE

Deep Learning engineer with a passion for system design, a background in research and a good grasp of the mathematics behind machine learning.

PROFESSIONAL EXPERIENCE

Sr. Deep Learning Engineer 02/2022 – present
Siterecon
Worked on end-to-end semantic segmentation ml pipeline.
Responsible for developing and monitoring the training and inference components.
Improved model performance from 0.91 to 0.94 IoU.
Reduced computational costs by 65%.

Software Engineer 09/2019 – 07/2021
Readink
Worked on offline OCR using functional data analytics.
Helped develop the data labelling and curation tools.
Implementation of a functional k-means clustering engine in python.

Data Scientist 03/2017 – 04/2019
Kornea Digital
Leverage data analytics to support customer development, marketing and product management for clients

EDUCATION

PhD Dropped out 09/2014 – 11/2016
University of Utah Salt Lake City, Utah

B-tech Computer Science 09/2009 – 05/2013
BK Birla Institute of Enigineering and Technology, Rajathan Technical University Pilani, India

COURSES

Deep Learning 08/2021
Nueromatch Academy

Computational Nueroscience 07/2021
Nueromatch Academy

Deep Learning 12/2018
DeepLearningAI

PROJECTS

Decoding neural activity of handwriting planning in the motor cortex 08/2021
Nueromatch academy
We hypothesised that since high dimensional neural activity in human brains can be represented by a small number of latent factors, these latent factors can be used to decode neural activity.
We extract latent factors in the neural data using LFADS (a type of variational auto-encoder), which were then used to predict the BCI output.

Investigating the role of the visual word form area during word recognition. 07/2021
Nueromatch academy
Human performance of recognizing a word should degrade with higher word frequency
We hypothesized that this is due to the visual word form area in the brain failing to identify words that are moving too fast.
We test this hypothesis using FMRI data of a person performing word recognition tasks at different word frequencies. The frequency stimulus signal processed through a hemodynamic response function is encoded using a GLM. The resulting model shows that visual word form area response shows an inverted `U` shape change with increasing frequency.

Extending RRT algorithm for moving obstacles 12/2014
University of Utah
Built a simulated environment for a visual representation of the RRT algorithm in Matlab, where some obstacles moved. At each step of the Path planning algorithm, we calculate the new location of obstacles using a GMM.

EKF SLAM 12/2012
BKBKIET
Implemented EKF Slam in Matlab on a LegoMindstorm NXT, using its sonar sensor. The Robot successfully navigated semi-structured environments.

PROGRAMMING LANGUAGES AND TOOLS

Programming Languages
Python, C++

Machine Learning stack (for Python)
Pytorch, Pytorch Lightning, FastAI, torchvision, torchtext, Scikit-learn, pandas, NumPy, Opencv, spacy, matplotlib, wandb, mlflow, clearml, mlflow, hydra, DVC, ONNX.

Backend Devlopment stack
FastAPI, Flask, Postgres, Kafka, Ray, docker, git.

Data tools
Kafka, Postgres, DVC, pyspark

Cloud tools
GCP, Pub/sub, gcloud-sdk, gcp-sql, AWS, bash scripting