Prateek Munjal
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Career Objective

- To secure an entry level position in a reputed organization where I can utilize my innovative ideas with skills and abilities for the overall growth of organization as well as for my professional career.

ACADEMIC DETAILS

Examination	University/Board	Institute	Year	CGPA
Mtech (*Computer Science and Engineering*)	IIT Ropar	IIT Ropar	2017-current	7.9
BE (*Computer Science and Engineering*)	Panjab University	UIET Hoshiarpur	2012-2016	7.6
12^{th}	CBSE	AKSIPS	2012	82 %
10^{th}	CBSE	Shivalik Public School	2010	72 %

FIELDS OF INTEREST

- Machine Learning, Deep Learning.

TECHNICAL SKILLS

- **Languages** (Python,C, C++, Matlab)
- **Deep Learning Frameworks** (Tensorflow)
- **Tools** (LaTeX, Gnuplot)
- **Frameworks** (Django, Hibernate)

PUBLICATIONS

- **P Munjal, A Paul and N C Krishnan,** ***Implicit Discriminator in Variational Autoencoder*** *(Under review)*
- **A Paul, N C Krishnan and P Munjal,** ***Semantically Aligned Bias Reducing Zero Shot Learning*** *(Accepted to IEEE Conference on Computer Vision and Pattern Recognition, 2019)*

MAJOR PROJECTS AND SEMINAR

- **Auto-Encoding Variational Bayes and GAN variant**
  Implemented vanilla Variational Autoencoder (VAE) and VAE-GAN. Empirically we found the demerits and instability in training of VAE-GAN due to presence of adversary. We leveraged the above demerits as motivation designing a new approach, i.e, extended to *Implicit Discriminator in Variational Autoencoder* (Under Review).

- **Adversarial Domain Adaptive Autoencoders**
  In this project we hypothesized to use the Autoencoders for learning a translating function in the image domain. Typically, it translates a image data point in target domain to a data point in source domain. We cleverly use the reconstruction loss for only the target data points, while for the source data points we introduced an adversarial loss.

- **Incremental learning with Conditional Generative Adversarial Networks**
  Implemented a Conditional GAN to learn a classifier in incremental setting using distillation loss. Experiments were performed in contrast to State of the Art : iCaRL approach where we uncover some potential de-merits of iCaRL like effect of a particular classes based on varying the number of instances per class in training data.

- **DAG Scheduling Using a Lookahead Variant of the HEFT Algorithm**
  – Implemented the research paper as a part of *(Advanced Operating System)* course project.
  – Crux of the paper was that decision of scheduling a task to processor not only involve its effect rather it also accounts affect on its children (thus, termed as lookahead) while assigning some processor.

- **The Case for Learned Index Structures** (Seminar: *It was a research paper presentation as a part of special course*)

- **Shortest Path Algorithms on distributed graph**
  – Given a large graph(large enough that it cannot be stored in RAM hence stored on secondary disk and used various kind of spatial partitioning algorithms), implemented Dijkstra, A* and hierarchical routing algorithm for computing shortest path algorithm given source and destination.
  – USA Road network dataset was used. A real dataset was necessity to check the correctness of A* algorithm as it makes more sense in real world.

- **Reverse KNN Algorithm**
  Input was two set of points P and Q where for each point q in Q we need to tell the points p in P for which k nearest neighbours of p contains q.

- **Placet – Android application** An android application designed for digitizing placement group activities. In this I worked for both server code (used Django) as well as on android application.

EXPERIENCE

- Teaching Assistant (*Artificial Intelligence*) : *February 2019 to current*
- Teaching Assistant (*Machine Learning*) : *July 2018 to December 2018*
- Teaching Assistant (*Finite Automata Theory*) : *January 2018 to May 2018*
- Infogain India Pvt Limited (*Software Engineer Trainee*) : *January 2016 to July 2016*

REFERENCES

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