

# Akanksha Paul

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🐙 github.com/akku1506

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## EDUCATION

### Indian Institute of Technology Ropar (since July, 2016)

MS(R) in Machine Learning  
Expected Grad. May 2019  
CGPA: 8.57

### Indira Gandhi Delhi Technical University for Women

B.Tech (Information Technology)  
2011-2015  
84.99%

### Doon Public School

CBSE (Class 12th)  
2011  
94%

### Doon Public School

CBSE (Class 10th)  
2009  
92.2%

## AREAS OF INTEREST

Machine Learning, Deep  
Learning and Computer Vision

## SKILLS

### Languages:

C/ C++, Python, ABAP

### Deep Learning Libraries:

Tensorflow, Keras

### Network Protocol:

DHCP

### Databases:

Oracle 11g, MySQL

### Experience in SAP's Business Warehouse Query Designing Tools

### Other Softwares:

MATLAB, WEKA

## PROFESSIONAL EXPERIENCE

### Indian Institute of Technology, Ropar

Aug 2017 – Jun 2018

#### Teaching Assistantship

- Machine Learning with Dr. Narayanan C Krishnan, Fall 2017
- Artificial Intelligence with Dr. Narayanan C Krishnan, Spring 2018

### SAP Labs

Jul 2015 – Jul 2016

#### Associate Software Developer

- Worked for Commercial Project Management in Project Issue and Change Management(PICM)
- Developed and deployed Key Performance Indicators for monitoring the project using SAP's NetWeaverWebDynPro UI configurations and ABAP
- Developed analytical reports for assessing the project performance using SAP's Business Warehouse Query Designing Tools
- Responsible for Ease of Deployment workforce

### Cisco Systems Ltd

Jun 2015 – Aug 2015

#### Interned as Software Engineer

- Understood the basic concepts of DHCP and implemented its configurations for various topologies
- Automated the process of generating configurations of DHCP using Rapid Scripting Tool
- Minor fixes to the existing code was also proposed using ABCC (Accessing, Building, Coding and Committing)

## PUBLICATIONS

- 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
- A Paul, P Munjal, and N C Krishnan, Implicit Discriminator in Variational Auto-Encoder (under review)

## PROJECTS

### Feature Generating Networks for Zero Shot Learning

- Open source code was made available in Tensorflow.

### Analyzing the performance of Zero Shot Learning

- Learned a common label space for ZSL and visualized the mapped examples in this common embedding space.
- Observing the effect of zero shot learning on various parameters like number of training instances per class, number of training classes and if some instances of test classes are already present.
- Improving the performance on AWA by combining the learned embeddings with already given class label embeddings.

## IMPORTANT LINKS

Github: [github.com/akku1506](https://github.com/akku1506)  
Website: [akku1506.github.io/](https://akku1506.github.io/)

## REFERENCES

### **Dr. C.K. Naraynan**

Assistant Professor  
Computer Science and  
Engineering Department  
IIT Ropar  
✉ [ckn@iitrpr.ac.in](mailto:ckn@iitrpr.ac.in)  
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### **Dr. Neeraj Goel**

Assistant Professor  
Computer Science and  
Engineering Department  
IIT Ropar  
✉ [neeraj@iitrpr.ac.in](mailto:neeraj@iitrpr.ac.in)

### **Solving Sudoku via CSP**

- Converting Sudoku into Constraint Satisfaction Problem.
- Solving it through strategies like backtracking search, backtrack search with minimum remaining value heuristic, backtracking search with the least constraining value heuristic and MAC.
- Comparing the various strategies on parameters like number of backtracks, time taken and memory constraints.

### **Real Time Water Quality Monitoring System**

- Designed a sensor network operated by the energy harvested from handpump  
<https://youtu.be/9xKISMtJTMo>

### **Genre Classification**

- From GTZAN Genre Collection extracting 1000 tracks of classical, hiphop, metal and pop genres.
- Training MLP on MFCC features extracted from each of the audio tracks.

### **Website for CSE department IIT Ropar**

[www.cse.iitrpr.ac.in](http://www.cse.iitrpr.ac.in)

### **Data Analytics in Smart Homes**

- System for recognizing activities in a home via supervised learning of 14 days was developed.
- To ensure safety of an elderly aged person, various parameters were devised like level of independence, fitness quotient, accident detection.
- Ranked 3rd among Department of IT, IGDTUW.

## ACHIEVEMENTS

- Highest CPGA across all MS(R) batches in IIT Ropar
- Scored 670 in GATE with 99.2 percentile
- Ranked 520 across the globe in ACM ICPC 2014
- Head coordinator of Website team, technical events in ESPECTRO'13.
- Won 1st Prize in Tech Fest Event named "SEA OF C", "TODDER" (based on C, C++) in 2014,2013
- Participated in coding competition like, CODEVITA'13, ACM ICPC'14, CODEVITA'14.
- Won 2nd Prize in Tech Fest Event named "TODDER"(based on C++ coding)
- Awarded with "Best Student Of The Year" in Doon Public School,2011
- Granted a scholarship in 10th and 12th from Doon Public School
- Awarded with "Little Mindian Scholarship" from HCL, 2009

## WORKSHOPS AND TALKS

- Received an opportunity to attend Summer School on Deep Learning at IIIT Hyderabad
- Delivered a talk on "Feature Generating Networks for Zero-Shot Learning" at IIT Ropar
- Delivered a talk on "How transferable are features in Deep Neural Networks?" at IIT Ropar