

# KARAN PRAHARAJ

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## EDUCATION

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**Shiv Nadar University, Greater Noida**

*July 2015 - May 2019*

Electronics and Communication Engineering

Scholarship : 75% tuition waiver

**PACE Junior Science College, Mumbai**

*August 2013 - May 2015*

Higher Secondary School Certificate - Pass

First in class in Computer Science (199/200)

**Lokhandwala Foundation School, Mumbai**

*June 2000 - May 2012*

Indian Certificate of Secondary Education - Pass

First in class in Computer Application (100/100)

## TECHNICAL SKILLS

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**Computer Languages**

C, Python, Tensorflow, JavaScript, Django

**Software & Tools**

HTML, CSS, Photoshop, PHP, AJAX

## RESEARCH PROJECTS

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**Patch-based Identification of Lexico-Semantic Relations**

Nov 2019 - ongoing

*Advisor : [Professor Gael Dias](#)*

*University of Caen, Normandy*

- Working as a research assistant in the [GREYC Research Lab](#) at the University of Caen Normandie, France. (HULTECH group - HUmAn Language TECHnology)
- The aim of the project is to devise multi-task strategies for the identification of lexico-semantic relations like hypernymy, synonymy, meronymy and co-hyponymy between a pair of words.
- We use word patches (the k closest neighbours to the words) to identify
- Received a full travel grant and subsistence allowance.

**Paper Review Alignment System**

Jan 2019 - June 2019

- Developed an automated academic conference review matching system using Machine Learning, Natural Language Processing and Information Retrieval, at the [Centre for Visual Information Technology](#) at IIIT Hyderabad.
- The system incorporates statistical machine learning to automate the process of assigning submitted research papers to the most suitable reviewer (based on domain expertise) and thereby, consequentially raise the percentage of expert reviewers by a significant margin.
- *Algorithms used* : Latent Dirichlet Allocation, Latent Semantic Indexing

**Ensemble Learning for Regression Applications**

July 2018 - Jan 2019

- Analysed the performance (in terms of accuracy and robustness) of ensemble algorithms like Bagging, Boosting and Random Forests against the performance of other machine learning algorithms like Support Vector Regression, Lasso and Ridge Regression, Neural Network Regressor, k-NN and k-means clustering.

## RFID based Navigation System for the Visually Impaired

Jan 2018 - May 2018

- Developed an RFID based system to assist the blind find and identify an object in their proximity. The model uses two-way localization, one using acoustic stimuli and the other using RFID.
- The proposed model provides an affordable solution to the existing problem of lack of sophisticated technological assistance to the VIPs.
- **Published in:** [32nd International Conference on VLSI Design and 2019 18th International Conference on Embedded Systems \(VLSID\)](#)

## TEACHING EXPERIENCE

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### Teaching Assistant, TalentSprint

Spring 2019

[Foundations of AI and ML \(Industry Course\)](#)

*IIIT Hyderabad*

- Taught basic concepts of Machine Learning and Deep Learning techniques for Computer Vision and Natural Language Processing.
- Designed & graded assignments, evaluated exams, conducted tutorials and mentored lab sessions.

### Undergraduate Teaching Assistant, Shiv Nadar University<sup>1</sup>

Monsoon 2017

*Engineering Mathematics*

- Conducted tutorial sessions for 1st Year B Tech students (average class strength of 70).
- Responsible for grading assignments, quizzes, mid-terms and final-term examinations.

### Undergraduate Teaching Assistant, Shiv Nadar University<sup>2</sup>

Monsoon 2018

*Introduction to Calculus*

- Taught introductory concepts of college mathematics to a freshman class of strength 20.
- Covered concepts like Sets, Functions, Limits, Continuity and Differentiability.

## CERTIFICATIONS

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### [An Introduction to Linguistics](#)

Summer 2019

*Universiteit Leiden Meertens instituut - Coursera*

### [Neural Networks and Deep Learning](#)

Summer 2018

*deeplearning.ai - Coursera*

### [Hyperparameter tuning, Regularization and Optimization](#)

Summer 2018

*deeplearning.ai - Coursera*

### [Structuring Machine Learning Projects](#)

Summer 2018

*deeplearning.ai - Coursera*

### [Convolutional Neural Networks](#)

Summer 2019

*deeplearning.ai - Coursera*

### [Sequence Models](#)

Summer 2019

*deeplearning.ai - Coursera*

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<sup>1</sup>Under Prof. Ajit Kumar (Asst. Prof., Dept. of Mathematics) - PhD, University of Houston

<sup>2</sup>Under Prof. Amber Habib (Head, Dept. of Mathematics) - PhD, University of California, Berkeley

## CONFERENCES ATTENDED

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**CyFy 2019 - Technology, Security and Society (New Delhi, India)**

14th-16th Oct 2019

- Received full travel and accomodation grant.

## COURSEWORK (SELECTED)

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Applied Machine Learning

Data Structures

Calculus & Linear Algebra

Computational Partial Differential Equations

Digital Signal Processing

Introduction to Computing and Programming

Probability and Statistics

Communication Networks

## POSITIONS OF RESPONSIBILITY

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**Secretary of Food Affairs**

*SNU Food Committee*

May 2017 - April 2019

*Shiv Nadar University*

- Spearheaded a team of 13 people to redraft a constitution for the Food Committee.
- Successfully organized a Food Festival which had a footfall of 800+.
- Introduced a variety of food options, diet recommendations and established high benchmarks for food quality and hygiene.
- Oversaw all things related to food and drink on campus and acted as a conduit between university administration, food vendors and the university community of close to 2300 people.

**President**

*FACTion - SNU's Quizzing Society*

February 2017 - February 2018

*Shiv Nadar University*

- Presided over 8 quizzes in my tenure. Average attendance of each quiz was 120.
  - Organised F! - The Inter-college Media and Entertainment quiz. Signed up three sponsors and gave out an overall prize money of Rs. 30000.
  - Served as club designer in the term before.
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