

Nitish Mangesh Kalan

2nd Year M.S.(Computer Science and Engineering)

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Academic Qualifications

Year	Degree/Certificate	Institute	CPI/%
2018 - Present	M.S. (CSE)	Indian Institute of Technology, Kanpur	8.8/10
2018	B.Tech (CST)	Department of Technology, Shivaji University	8.35/10
2014	CBSE (XII)	Jawahar Navodaya Vidyalaya, Raigad, Maharashtra	87.2%
2012	CBSE (X)	Jawahar Navodaya Vidyalaya, Raigad, Maharashtra	9/10

Scholastic Achievements

- Received the **Academic Excellence Award** from IIT Kanpur for exceptional academic performance in 2018.
- Secured 1st rank in Institute Level Project Competition, TECHFEST-2018 at Department of Technology, Kolhapur.
- Received **Shree Dewang Mehta Excellence Award** for exceptional academic performance in 2017.
- Secured 1st rank in Institute Level Project Competition, TECHFEST-2017 at Department of Technology, Kolhapur.

Key Projects

- **Long term Object Tracking with Reinforcement Learning** (*May'19 - Ongoing*) **Dr. Vinay P. Namboodiri**
 - Developing robust tracker to track objects in long sequence of frames using **Hierarchical Reinforcement Learning**.
 - Developing object tracker which is robust to partial or full occlusions in tracking sequence.
- **Unsupervised Domain Adaptation for Semantic Segmentation** (*Mar'19 - Apr'19*) **Dr. Vinay P. Namboodiri**
 - Unsupervised Semantic Segmentation refers to assigning class to each pixel of an image in absence of labeled training data.
 - Implemented **alternative optimization** based method for **unsupervised semantic segmentation**.
 - Implemented domain invariant classifier to perform object classification using inverted gradient.
- **Bayesian Support Vector Machine: Implementation and Extensive Evaluation** (*Feb'19 - Apr'19*) **Dr. Piyush Rai**
 - Implemented probabilistic SVM using Bayesian techniques of **Expectation Maximization** and **Gibbs Sampling**.
 - Implemented EM-SVM & ECME-SVM (based on Expectation Maximization) and MCMC-SVM (based on Gibbs Sampling) and evaluated Classical SVM, EM-SVM, ECME-SVM & MCMC-SVM extensively on different Binary Classification datasets.
- **Vision Based Hand Gesture Classification for Indian Sign Language** (*Sept'18 - Dec'18*) **Dr. Piyush Rai**
 - Trained different Machine Learning models namely Support Vector Machine (SVM), K Nearest Neighbors (KNN), Logistic Regression (LR) and Convolutional Neural Network (CNN) to classify static hand gestures of Indian Sign Language.
 - The evaluation metrics was accuracy and we found that Convolutional Neural Network outperformed all other models.
- **Gesture based Android Phone Calling System using ML and Accelerometer**(*Aug'17 - Mar'18*)**Dr. R.J.Deshmukh**
 - Implemented an Android app using which you can call people by moving the phone in previously assigned **smart gesture**.
 - Implemented **Dynamic Threshold Truncation** (DTT) to crop required part of recorded gesture followed by interpolation to make gestures of equal length followed by **Dynamic Time Wrapping** (DTW) to compute similarity among gestures.
- **LibSoft: Library Management System** (*Apr'17 - Jul'17*)
 - Developed software and website for daily book circulation and management for Department of Technology, Kolhapur.
 - Institute is currently using this software for their daily book circulation and website to display Online Library Catalogue.
 - Software was developed using **C++ with QT library** and Website was developed with PHP back end.
- **Website for Jawahar Navodaya Vidyalaya, Raigad** (*Feb'17 - Mar'17*)
 - Developed a school website for Jawahar Navodaya Vidyalaya, Raigad.

Technical Skills

- **Programming Languages:** C, C++, Python, HTML, PHP, SQL, Golang, L^AT_EX
- **Software and Libraries:** QT (C++), Tensorflow, Keras, PyTorch, GNU Octave, Android Studio

Positions of Responsibility

- Teaching Assistant of CS771: Introduction to Machine Learning (*Aug'19 - Ongoing*)
- Teaching Assistant of ESC101: Fundamentals of Computing (*Aug'18 - Apr'19*)

Relevant Courses

Introduction to Machine Learning	Mathematics for Computer Science	Probabilistic Modeling and Inference
Visual Recognition	Machine Translation	Data Structures and Algorithms

Extra-Curricular Activities

- Presented a poster at *India International Science Festival 2016* a Government of India funded event.
- Presented a paper titled *WLAN (802.11) De-authentication attack detection using Artificial Neural Network* at *Multidisciplinary National Conference on Emerging Trends in Computer Vision, Wireless Communication and Industrial Automation 2016*.
- Participated and presented a paper titled *Web hosting on LAN using PHP for collection of student data* at *International Conference on Mathematics 2015*