

# MAHDIHUSAIN MOMIN

Department of Computer Science & Engineering  
Indian Institute of Technology, Delhi

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## INTERNSHIPS

Summer Technology Analyst  
Goldman Sachs, Bangalore, India  
May 2018 – July 2018

- Created end-to-end health monitoring system for microservices
- Deployed consul server and added service registration support in microservices
- Created consolidated dashboard for microservices health monitoring using ReactJS
- Deployed the application in integration environment

Data Scientist  
HSBC Software Development, Pune, India  
June 2017 – July 2017

- Developed a machine learning model for question answering from company database
- Added support of feedback to the model
- Demonstrated the use of the model to eliminate manual search time

## PROJECTS

Social Network Analytics  
Prof. Sayan Ranu & Prof. Amitabha Bagchi  
January 2018 – Present

- Developed extremely fast algorithm to detect collusion on large social networks
- Algorithm involves identification of cohesive subgraphs over a period of time
- Analyzed K-core as the definition of cohesive subgraph

Core-Vectorizer: An alternative of TF-IDF-Vectorizer  
Prof. Mausam  
January 2018 – April 2018

- Developed a feature extraction technique for bag of words model in text classification
- Formulated importance of a word in terms of core value (k-core)
- Proven as a better alternative of TF-IDF feature extraction technique for unigrams

Toy Self Driving Car  
Raghavendra Singh, IBM India Research Lab  
July 2017 - November 2017

- Built a toy self driving car using Raspberry Pi and deep learning model
- Collected the image dataset by driving car using remote control
- Implemented lightweight convolutional neural network to make car turn decisions in real-time

Digital Makeup Transfer  
Prof. Prem Kalra  
September 2017 - October 2017

- Developed an automated tool to transfer makeup from one face to another
- Used techniques such as face alignment, layer decomposition, skin detail, color transfer
- Developed the application in python using OpenCV library

Unix Kernel Shell  
Prof. Sorav Bansal  
January 2017 - April 2017

- Built a simple Unix based kernel from scratch in C++ and x86 assembly language
- Designed a shell on VGA screen and included features like threads, coroutines, and scheduling

Artificial Intelligence bot for the deterministic strategy game - TAK  
Prof. Mausam  
September 2016 - November 2016

- Designed an AI bot for playing the deterministic strategy game, Tak
- Implemented the bot using Adversarial Search algorithm Expecti-Minimax
- Used alpha-beta pruning and heuristics to reduce depth of search

Campus Traffic Monitoring  
Prof. Balakrishnan  
May 2016 - July 2016

- Developed an automated system for detecting and warning speed violators inside campus
- Programmed Arduino GSM Shield for automating warning messages via SMS for residents
- Programmed LED Display board to warn non-resident violators on exit

## ACADEMIC DETAILS

B.Tech & M.Tech - Dual Degree  
Computer Science & Engineering  
Indian Institute of Technology, Delhi  
2014 - 2019 (Expected)

## COURSES

- Data Structures and Algorithms
- Analysis and Design of Algorithms
- Data Mining
- Machine Learning
- Deep Learning
- Natural Language Processing
- Extreme Classification
- Artificial Intelligence
- Numerical Algorithms
- Digital Image Analysis
- Optimization Methods
- Probability & Stochastic Processes
- Computer Networks
- Parallel & Distributed Programming
- Operating Systems
- Cloud Computing
- Database Management Systems
- Programming Languages
- Logic for Computer Science

## TECHNICAL SKILLS

- C++ Python Java Matlab OCaml
- HTML5 CSS ReactJS JavaScript
- SQL PyTorch OpenMP MPI OpenCV

## CO-CURRICULAR ACTIVITIES

- Teaching Assistant

  - Programming Languages (Spring 2019)
  - Data Mining (Fall 2018)
- Table-Tennis Hostel Captain

Lead the hostel team in inter-hostel table-tennis tournaments (2015-2016)
- NGO

Member of the Kanodar Yuva Group
- JNV Table-Tennis National

Member of Navodaya Vidyalaya Samiti, Pune Table-Tennis Team (2012)