

# YOGESH MANDGE

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## EDUCATION

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- Master of Technology in Computer Science and Engineering** July 2018 - May 2021  
Indian Institute of Technology, Hyderabad, **CGPA:** 9.25/10.00  
- Member of Networked Wireless Systems (NeWS) Lab.
- Bachelor of Engineering in Computer Science and Engineering** July 2013 - May 2017  
Shri Ram Institute of Science and Technology, Jabalpur  
Rajiv Gandhi Proudhyogiki Vishwavidhyalaya, **CGPA:** 8.58/10.00

## WORK EXPERIENCE

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- Indigenous 5G Testbed** July 2018 - Present
- Working on the development of 5G Network Functions (NFs) and Multi-Access Edge Computing (MEC) platform in accordance with 3GPP specifications.
  - Developed RESTful HTTP/2 based core 5G NFs and MEC platform with essential functionalities to support end to end data transfer.
  - Developed and demonstrated video caching as an application of MEC.
  - Currently working on the Orchestration and Management of 5G NFs along with the MEC platform.

## CONFERENCE PRESENTATIONS

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- Supriya T, Jyoti T, **Yogesh M**, Antony FA, BheemArjuna RT. Real-Time Video Caching over Low Latency MEC in OAI LTE Network. Poster session presented at: Twenty fifth National Conference On Communications (NCC); 2019 Feb 20-23; Bangalore, India.

## SELECTED PROJECTS

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- Video Throughput Guidance using MEC in 5G Mobile Network** October 2019 - Present
- Estimating near real-time capacity available on the Radio interface using Radio Network Information (RNI) service of MEC.
  - Developing an algorithm to select video bit-rate per user to efficiently utilize Mobile network's resources.
  - Attempt to prevent Congestion, Packet loss and/or under utilization of network's resources.
- Bayesian Recurrent Neural Network** August 2019 - November 2019  
*Advanced Machine Learning*
- Implemented Truncated Bayes by Backprop through time with Recurrent Neural Network (RNN) enhanced by Posterior sharpening to improve the regularization and uncertainty estimates.
- Event Evolution Tracking from Streaming Social Posts** August 2019 - November 2019  
*Data Mining*
- Developed algorithms to handle highly dynamic social streams i.e tweets and track Event Evolution patterns i.e birth, death, growth, decay, etc. in real-time.
  - Reproduced previous work and developed a framework which summarizes the information in the stream using word clouds within the current time window.
  - Currently working on improving the efficiency of the framework.
- Auto Hybrid Scaling of Virtual Network Functions** April 2019 - June 2019  
*Topics in Wireless Networks*

- Implemented a Reactive threshold-based coarse-grained Horizontal scaling algorithm.
- Implemented a Long short term memory (LSTM) model to predict upcoming traffic based upon the current trend.
- Extended the algorithm to a Proactive Hybrid i.e coarse-grained Horizontal and fine-grained Vertical, scaling approach by using the LSTM model.

### **Autonomous Robotic Weeder**

September 2018 - November 2018

*Internet of Things*

- Built an autonomous bot for Detection and Removal of Crop Weed using Deep learning & Raspberry Pi.
- Developed a Probabilistic Neural Network (PNN) classifier with 80% accuracy for plant/weed classification using leaf recognition.
- Implemented code for autonomous movement of the bot.

### **Optical Character Recognition**

August 2016 - November 2016

*Major Project - Bachelor of Engineering*

- Implemented an Optical Character Recognition system using Character-based segmentation and Nearest Neighbour Classifier to classify optical patterns corresponding to alphanumeric or other characters.
- Able to classify with an accuracy of 80% even on low quality inputs.

### **Sentiment Analysis of Movie Reviews**

February 2016 - April 2016

*Minor Project - Bachelor of Engineering*

- Developed a Movie Review Classifier using Knowledge or Dictionary-based Approach for Sentiment Analysis.
- Implemented Java application to identify and categorize movie reviews by computing basic sentiment scores and classifying them as positive or negative.
- Able to classify IMDB reviews as positive or negative with an accuracy of 75%.

## **TECHNICAL SKILLS**

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**Programming Languages:** Fluent in C & C++, Python, Familiar with Java, Shell Scripting (Linux)  
**Web Development:** HTML, CSS, JavaScript, PHP, MySQL, MongoDB  
**Tools:** git, L<sup>A</sup>T<sub>E</sub>X, Adobe Photoshop, Wireshark, Docker, OpenStack, Open Source M-ANO (OSM), OpenAirInterface (OAI), ns-3

## **SCHOLASTIC ACHIEVEMENTS**

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- **Department Rank 1:** Consistently maintained Department Rank 1 over the duration of 4 years at Shri Ram Institute of Science and Technology, Jabalpur.
- Secured 95% in Oracle's Java SE 6 Certification program, **ID:** 241835947OCJPJSE6P.

## **RELEVANT COURSEWORK**

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**Computer Science:** Software Defined Networking, Topics in Wireless Networks, Computer and Network Security, Wireless Networks and Security, Internet of Things, Data Mining, Advanced Machine Learning, Advanced Data Structures and Algorithms, Computer Networks.  
**Mathematics:** Graph Theory, Linear Algebra, Probability Theory.

## **EXTRA-CURRICULAR ACTIVITIES**

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- Technical Representative at Abhikalpan'16, PDPM Indian Institute of Information Technology, Design and Manufacturing (IIITDM) Jabalpur.
- Student Co-ordinator at Aavhan'16, Shri Ram Insititue of Technology (SRIT) Jabalpur.
- Won 2nd prize in Hoverpod Competition organized at Kshitij, Indian Institute of Technology (IIT) Kharagpur.