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Mehul Sharma



- Status: M.Tech Research Assistant (2nd year), Department of CSE, Indian Institute of Technology, Hyderabad
- Fields of Interest: Wireless and Cellular Networks, 5G, Cloud-RAN, NFV-SDN, IoT, Vehicular Networks (V2V,V2X), Data Mining, Algorithms, Data Structures, and Information Retrieval
- Strength: Hardworking, Punctual, Team Work, Dedicated, Easily adapt to new environments

Education

2017-Present — **M.Tech in Computer Science and Engineering** — IIT Hyderabad

- 8.14 CGPA (Till 3nd semester)
- I work in NeWS Lab: http://newslab.iith.ac.in/

2013 - 2017 — **B.Tech in Computer Science and Engineering** — University of Delhi

- 80 %

2011 - 2013 — **HSC (Class XII)** — ITL Public School, Dwarka, Delhi

- 91.6 %

2009 - 2011 — **SSC (Class X)** — The Rajasthan School, Jaipur

- 9.2 CGPA

Publications

2019 — Himank Gupta, Mehul Sharma, Antony Franklin A, and Bheemarjuna Reddy Tamma, "**Apt-RAN: A Flexible Split Based 5G RAN to Minimize Energy Consumption and Handovers**" submitted to *IEEE Transactions on Network and Service Management.* [Under Review]

2018 — Suhel Magdum, Mehul Sharma, Srikant Manas Kala, Antony Franklin A, and Bheemarjuna Reddy Tamma, "**Evaluating DTN Routing Schemes for Application in Vehicular Networks**" in *Proceedings of fifth workshop on Intelligent Transportation System, COMSNETS* 2019, Bengaluru, India.

2018 — Mehul Sharma, Suhel Magdum, Antony Franklin A, Bheemarjuna Reddy Tamma, and Digvijay S Pawar, "**VISIBLE: Application for Vehicle Visibility and Incident Reporting in Real-Time**" [Poster] in *Proceedings of the Internet Conference* 2018, Tokyo, Japan.

2018 — Thukral A., Jain A., Aggarwal M., Sharma M., "**Semi-automatic Ontology Builder Based on Relation Extraction from Textual Data**" in *Proceedings of Advanced Computational and Communication Paradigms, Advances in Intelligent Systems and Computing*, vol 706. Springer, Singapore, 2018.

Academic Projects

2019-Present — **Energy efficiency in 5G Cloud-Radio Access Networks**

- Cloud Radio Access Network (C-RAN) is a promising and innovative 5G RAN architecture meant to address the inadequacies of traditional RAN architectures. This work includes detailed profiling and study of C-RAN functional splits proposed by 3GPP in TR 38.801 Release 14 using OpenAirInterface (OAI). Based on above study, formulating the split specific energy efficient models to minimize the total energy consumption in CU pool.

Aug-Dec'18 — **Automatic table of content generation for video lectures**

- Given only transcript/subtitle file of a video, automatically generate the table of content suing texttiling and topic modeling machine learning algorithms.

Jan-Aug'18	**Real-time android application for collision detection and avoidance in vehicular networks using cloud and P2P technologies**

- Real-Time vehicle tracking application that uses existing ad-hoc networks and cloud technologies for efficient V2V/V2I communication. When a vehicle approaches in collision domain, app automatically alerts the driver via beep sound. App also automatically switches from cloud mode to peer-to-peer mode when there is no internet for certain threshold of time and vice-versa. App can also be used for incident sharing by means of text and images to the vehicles within certain radius.

Jan-May'18	**Implementation of Firewall**

- Implementing a firewall in python using socket programming.

Aug-Dec'17	**Multihop Routing through Heterogeneous Transport in IOTivity**

- Providing support of multihop routing in IOTivity framework for seamless communication between IOT devices.

Aug-Dec'17	**Implementing Dynamic-Auto Rate Fallback (D-ARF) rate control algorithm in NS3**

- Auto Rate Fallback(ARF) is a Rate Adaptation algorithm in IEEE 802.11 networks. Dynamic ARF(D-ARF) is an extension of ARF where success and failure thresholds are chosen dynamically based on channel conditions.

Jan-July'17	**Semi-automatic Ontology Builder Based on Relation Extraction from Textual Data**

- Ontologies define the concepts and relationships used to describe and represent an area of concern. An Ontology encompasses a representation, formal naming, and definition of the categories, properties, and relations between the concepts, data, and entities that substantiate one, many, or all domains. Manually building an ontology is highly cumbersome and complex. Thus, in this work, we proposed a semi-automated GUI based ontology builder that can easily build ontologies from textual data without much human intervention.

Training and Internship

2015	Trained in Application Development using java for six weeks at positive solutions, Pitampura, New Delhi.

Technical Skills

Languages:	C, C++, Java, Python, JavaScript, SQL, HTML, XML, LaTeX
SoftwareTools:	OpenAirInterface (OAI), Docker, Prometheus, vTunes by Intel, MS Office, Eclipse, Android Studio, MatLab, GAMS, GitHub
Databases:	MySQL, Firebase, Oracle DB
OS:	Linux, Windows
Simulators:	NS-3 (Network Simulator)
Script:	Python, Shell

Achievements and Extra Curricular Activities

- Secured Gold Medal in Discus Throw in IIT Inter Year, 2018.
- Secured Bronze Medal in Shot Put in IIT Inter Year, 2018.
- Volunteer at National Connference on Communication (NCC),2018.
- Volunteer at International Conference on COMmunication Systems and NETworkS (COMSNETS),2019.
- Served as a volunteer in BLITZKREIG-The Computer Science Fest of Keshav Mahavidyalaya, University of Delhi, 2014.
- Secured Silver Medal in Discus Throw in Zonal Competitions, Dwarka Zone, Delhi, 2013.
- Secured Silver Medal in Discus Throw in Zonal Competitions, Dwarka Zone, Delhi, 2012.
- Secured first position in Bharat ko Jano Pratiyogita organized by Bharat Vikas Parishad, Rajasthan, 2009