

# Suryatej Reddy Vyalla

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## Education

### Georgia Institute of Technology

MASTER OF SCIENCE IN COMPUTER SCIENCE

Atlanta, GA

Aug 2021 - May 2023 (Expected)

### Indraprastha Institute of Information Technology (IIIT) Delhi

BACHELOR OF TECHNOLOGY (B.TECH), COMPUTER SCIENCE AND ENGINEERING (CSE) | GPA: 9.35/10

New Delhi, India

Aug 2016 - July 2020

- Selected Coursework: Deep Learning, Machine Learning, Information Retrieval, Semantic Web, Reinforcement Learning, Computer Graphics

## Skills

**Programming Languages** Python, Java, C++, Javascript

**Data Science Frameworks** PyTorch, Keras, Pandas, Sklearn

**Development Tools and Technologies** Django, Android Studio, MySQL, MongoDB, Docker, Celery, Redis, OpenGL, Git, LaTeX

## Industry

### Adobe Systems

MEMBER OF TECHNICAL STAFF, ADOBE CAMPAIGN R&D | C++, JAVA, JAVASCRIPT

New Delhi, India

Aug 2020 - Aug 2021

- Worked on improving recovery and error messaging of Remarketing Emails (Triggers)
- Fixed critical bugs related to Custom Resource API publication
- Delivered improvements to Push Notification delivery that reduced server load by 15% on high usage customers
- Developed an unsupervised learning based algorithm to filter logs that assists engineers during Customer Service Outages (CSO's).

### Atrillu - Tech Enabled Marketing Solutions

CO-FOUNDER AND CTO | CONSULTING, TECHNICAL ADVISORY

Bengaluru, India

Aug 2020 - Aug 2021

- Worked on various aspects of startup ranging from hiring and meeting clients to making sales pitches and product development
- Lead a team of 5 that developed internal data dashboards for leading Marketing Agencies (Schbang, DjangoDigital) in India
- Developed and deployed intelligent (NLP based) marketing systems for clients (Amazon Prime Video, HDFC Life Insurance)

### TCS Innovation Labs

RESEARCH INTERN | PYTHON, DATA MINING (CELERY, REDIS), UNSUPERVISED MACHINE LEARNING (PYTORCH)

New Delhi, India

May 2019 - July 2019

- Setup a multi threaded architecture to collect deleted and removed comments from Reddit
- Trained a text classifier on removed comments to automate content moderation on Reddit
- Generated high-dimensional representations of Reddit user profiles based on activity for clustering

### Open Transit Data Delhi | Government of NCT, Delhi

DATA SCIENCE INTERN | SOCKET PROGRAMMING, DATA CLEANSING AND STRUCTURING (PANDAS)

New Delhi, India

Sep 2018 - Nov 2018

- This project made Delhi the **first city in India to open up transit data** to public. [Link]
- Developed algorithms to process live logs received from buses over linux sockets and cross linked with static timetable.
- Built a robust system to convert this data into General Transit Feed Specification (GTFS) which is a global standard for transit data.

### MyWanderlust.in

SOFTWARE ENGINEER INTERN | DJANGO, JAVASCRIPT

New Delhi, India

May 2017 - Jul 2017

- Worked on asynchronous data collection of users from Facebook and Instagram using celery queues that brought down compute time by 35%.
- Built a web based messaging platform for users from scratch using AJAX
- Implemented like and comment feature for posts.

## Academic Research

### Massachusetts Institute of Technology (MIT)

RESEARCH ASSISTANT | ADVISOR: DR. KIRAN GARIMELLA | NATURAL LANGUAGE PROCESSING (NLP)

Remote

July 2019 - August 2020

- Worked on the problem of misinformation on WhatsApp during the Indian General Elections 2019
- Experimented with various language models (**Word2Vec**, **Doc2Vec**, **BERT**, **ELMO**) on Multilingual WhatsApp data for various tasks (coordinated messaging patterns, hate speech, fear speech)
- Built intuitive interfaces for journalists, researchers, and students to annotate WhatsApp chats recreated from data.
- Developed tools to index and search large data using Elasticsearch (ELK) stack.

### Precog, IIIT Delhi

UNDERGRADUATE THESIS | ADVISOR: DR. PONNURANGAM KUMARAGURU | SOCIAL COMPUTING, NLP

New Delhi, India

Jan 2018 - June 2020

- Built a scalable system to collect multimodal data from public WhatsApp groups
- Developed an algorithm using **knowledge graphs and text embeddings** to verify the authenticity of news articles.
- Built an android application that got **featured in Times of India**. <http://bit.ly/whatsfarzi>
- Led a team of 2 researchers in an exploratory study of NaMo App.
- Studied voter privacy leaks on Twitter during the Indian Elections.

- Worked on Agent Based and Classical Compartmental Models in collaboration with a team of medical researchers
- Built an interactive dashboard deploying the models for live graphs. <http://covision.tavlab.iiitd.edu.in>
- Built an NLP dashboard to speed up knowledge discovery during the Covid19 pandemic <http://covidnlp.tavlab.iiitd.edu.in>

## Research Publications

### COBRA: Contrastive Bi-Modal Representation Algorithm | [Link]

TUSION workshop, IJCAI 2020

VISHAAL UDANDARAO\*, ABHISHEK MAITI\*, **SURYATEJ REDDY VYALLA\***, DEEPAK SRIVATSAV\*, YIFANG YIN, RAJIV RATN SHAHDomains: **Cross Modal Retrieval | Deep Representation Learning**

### Memeify: A Large-Scale Meme Generation System [Link]

ACM CoDS-CoMAD 2020

**SURYATEJ REDDY VYALLA\***, VISHAAL UDANDARAO\*, TANMOY CHAKRABORTYDomains: **Information Retrieval | Deep NLP (Transformers)**

### #IVoted to #IGotPwned: Studying Voter Privacy Leaks in Indian Lok Sabha Elections on Twitter [Link]

SocInfo 2020

SAURABH GUPTA, AGARWAL ANANT, **SURYATEJ REDDY VYALLA**, ARUN BALAJI BUDURU, PONNURANGAM KUMARAGURUDomains: **Privacy Leaks | Supervised Machine Learning**

## Selected Projects

### Deep Sentiment

Dr. Saket Anand

COURSE: DEEP LEARNING

Feb 2019 - Apr 2019

- Surveyed advanced deep learning techniques for sentiment analysis: Pure self-attention based models (transformers), Transfer Learning using Chain-Thaw method and Multi-Task learning.

### Meme Retrieval

Dr. Tanmoy Chakraborty

COURSE: INFORMATION RETRIEVAL (IR)

Feb 2019 - Apr 2019

- Created a large meme dataset of 1.1 million captions across 128 meme classes. Built a cross modal IR system using CNN's and standard retrieval techniques learnt in course.

### cudaRSA <https://github.com/cse-560-gpu-computing-2019/fastrsa>

Dr. Ojaswa Sharma

COURSE: GPU COMPUTING

Feb 2019 - Apr 2019

- Implemented RSA encryption and decryption in CUDA C and achieved speedups using optimizations in modular and bit level exponentiation.

### Chain Reaction Game <https://github.com/suryatejreddy/ChainReaction>

Dr. Vivek Kumar

COURSE: ADVANCED PROGRAMMING

Oct 2017 - Dec 2017

- Developed the popular Chain Reaction Game in Java using OOPs concepts. The game also supports multiplayer mode on the same network.

## Honors & Awards

- '17,'19 **Dean's List for Academic Excellence**, IIIT Delhi
- 2018 **4th Position India Region, Top 20 Worldwide**, CSAW CTF Finals Organized by NYU
- 2017 **4th Position**, Pragyan CTF Organized by NIT Tricity
- '16,'17 **1st Position, 2nd Position**, Scripting Challenge Organized by d4rkc0de
- 2016 **Gold Medal**, School Topper, OOEHS Sharjah UAE

## Teaching and Leadership

- Fall '21 **Teching Assistant**, Computer Networks 1 GeorgiaTech
- Spring '19 **Teching Assistant**, Introduction to Engineering Design IIIT Delhi
- Fall '19 **Teching Assistant**, Computer Networks IIIT Delhi
- '17 - '20 **Coordinator**, Byld, Software Development Club IIIT Delhi
- '17 - '20 **Core Member**, d4rkc0de, Cybersecurity Club IIIT Delhi
- '17 **Event Head**, Stand Up Comedy Odyssey, IIIT Delhi