Shreya Terupally

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Education

Carnegie Mellon University - School of Computer Science — Pittsburgh, PA
Masters in Language Technologies Institute. — *Expected Jan 2025*

International Institute of Information Technology, Hyderabad — Hyderabad, India
B.Tech (Hons.) in Computer Science and Engineering. ***GPA : 3.75 (9.37/10)*** — *Aug. 2017– May 2021*

- **Coursework** : Computer Vision,NLP Applications, Data Systems, Operating Systems, Distributed Systems, Artificial Intelligence & ML, Data Analytics, Software Analysis and Design, Cryptography
- **Achievements** : Dean's Research Award 2020, Dean's List of Excellence, 2017-21 - Awarded annually to top 1% students on basis of academics and research.
- **Teaching Assistantships** : Computer Vision, Discrete Mathematics, Data Structures & Algorithms

Industry Experience

Uber India — May. 2020 – Present
Software Development Engineer 2, Risk team — *Hyderabad, India*

- Developed a **feedback loops platform**, that reanalyses risk rules on latest data and recommends modifications to improve performance, and expanded it to other Uber organizations beyond Risk.
- Built a comprehensive **anomaly detection system** on risk actioning rates to reduce incident detection time
- Built **insights generation platform** in Risk systems focusing on fraud detection failures.

Microsoft India — May 2019 – July 2019
Software Development Intern, Edge team — *Hyderabad, India*

- Developed the **core features : Tab Center and page translations** for the android Edge browser using Java, C++, SkiaGL, Bing API

Research Experience

Automatic Learning Assistant in Telugu — June 2020 – Jan 2021
Language Technologies Research Center, IIIT Hyderabad — *Hyderabad, India*

- Developed a model that summarizes Telugu passages and generates **Q/A pairs for reading comprehension.**
- Employed a mixture of **rule-based, statistical and deep-learning techniques**, for extensibility to similar low-resource languages.
- **Publications - Question and Answer pair generation for Telugu short stories** in International Conference on Natural Language Processing (ICON) 2020. [paper], **Automatic Learning Assistant in Telugu** in Document-grounded Dialogue and Conversational Question Answering (DialDoc 2021) [paper]

Telugu Wikipedia Article Generation — Jan 2021 – July 2021
Information Retrieval and Extraction Lab, IIIT Hyderabad — *Hyderabad, India*

- Developed a model to auto generate Telugu Wikipedia articles employing domain-wise data collection from various sources, machine translation models and template rendering.
- The model was successfully used to author around 4k+ articles for Hospitals domain. [github]

Visual Servoing — June 2019 – June 2021
Robotics Research Center, IIIT Hyderabad — *Hyderabad, India*

- Worked under **Prof. K Madhava Krishna** on vision-based robot control, where we **generate the robot's trajectory** given only a initial and target image.
- Our team proposed and evaluated a novel **deep-learning based system using optical flow** that performs 6DOF visual servoing that is generalizable with fine-tuning.
- **Publication - DFVS : Deep Flow Guided Scene Agnostic Image Based Visual Servoing** in International Conference on Robotics and Automation (ICRA) 2019. [paper]

Selected Projects

StoryGraphs : Video Summarization as a Timeline | *Computer Vision*

- Automatic generation of **character interaction charts for TV episodes**
- 3-subsystem approach consisting of Scene Detection, Face Recognition and Chart Generation. Built in Python + PyTorch

Scientific Document Summarization | *Natural Language Processing*

- Given a reference paper and its corresponding cited papers, cited text spans and the facet in the reference paper has to be identified
- Fine-tuned **bi-directional transformers** were used for the identification of cited passages

Saf.ai : Smart Waste Management | *Smart India Hackathon, 2020*

- Python Web Application to monitor waste-related issues of a locality.
- **Features:** Upload waste-related images, **DL-based priority identification**, Automatic **alerts to local authorities**, Dashboards to monitor issue status.
- Used techniques like boosting to reduce the complexity and achieve **higher precision real-time**.

Ultimate Tic-Tac Toe Bot | *Artificial Intelligence*

- Made an A.I. bot capable of playing a 16x16 variant of Ultimate Tic-Tac-Toe, which **stood 5th** in over 100 teams
- Used game-theory techniques like alpha-beta pruning with minimax algorithm and Zobrist Hashing for searching with a **self-crafted heuristic function** for scoring board state.

Distributed Group Chat Application | *Distributed Systems*

- Created a distributed group chat application using Multicast Sockets in JAVA, which supports **file exchanging and chat-groups** among multiple clients.

RL agents for self-driving car simulations | *Reinforcement Learning*

- Employed several algorithms such as **Q-learning, policy iteration, DeepQN** to train reinforcement learning agents on openAI duckietown self-driving car simulator environments. Personal project for learning.

Extra Curricular Achievements and Awards

- **Uber She++ Hackathon, 2019** - Was placed in the top 20 in All India competitive coding rounds.
- **JEE-Mains, 2017** All India Rank 453 among 9 lakh applicants.
- **TS-EAMCET, 2017** All India Rank 149 among 1.5 lakh students
- **NTSE Scholarship** Selected by Govt.of India among 1.2 million people who appeared.

Leadership

Campus Life Coordinator May 2019 – May 2020

- Organised various cultural and extra-curricular events for students.

Marketing Managing Team, Felicity 2019 August 2019

- Responsible for promotion and outreach by collaborating with brands for IIIT-H Fest Felicity.

Technical Skills

Languages: C, C++, Python, Java, Matlab, Go(Basic), JavaScript, HTML/CSS
Frameworks: Django, Flask, AngularJS, ReactJS
Databases: MySQL, Oracle, Neo4J, MongoDB, SQLLite3
Miscellaneous: PyTorch, Keras, Git, Tensorflow, OpenCV, OpenGL