Redla Varsha Reddy

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Education

Carnegie Mellon University (CMU) Pittsburgh, PA
Master of Science in LTI (Intelligent Information Systems) *December'24*
Relevant Coursework: Machine Learning, Multimodal Learning, Multilingual Learning

International Institute of Information Technology (IIIT-H) Hyderabad, India
Bachelor of Technology in ECE (Hons. NLP) — CGPA: 8.65/10 *July'21*
Relevant Coursework: Computer Programming, Data Structures and Algorithms, Operating Systems, Machine Learning, Natural Language Applications, Speech Technology, Digital Signal Processing, Computer Networks, Linear Algebra, Differential Equations, Computer Organization, Probability and Random Processes

Experience

Adobe Inc. Bangalore, India
Software Development Engineer - 2, SDE Intern *July'21 - Aug'23, May'20-Jul'20 (Intern)*
- Worked on a project to auto-purge archived/deleted customer assets after a fixed period. Reduces the creative cloud storage cost by 30% for the company.
- Improved the scalability of our system by 10x by working on making our system resilient to failures.
- Worked on retroactively encrypting user data using Azure Key Management in a multi-part strategy.
- Improved functional and unit test coverage for better code quality and maintenance by 21%.
- Led and delivered a complete revamp of codebase from OSGi into Spring based micro-service model.

National University of Singapore Singapore, Remote
Research Internship . Dr. Hongliang Ren *July'22 - Dec'22*
- [NDA] Developed a model to enhance keyword focus in medical visual question answering while maintaining answer fluency.

International Institute of Information Technology (IIIT-H) Hyderabad, India
Undergraduate Researcher · Teaching Assistant *May'19 - July'21*
- **Full time Honors student** at IREL (Information Retrieval and Extraction) lab under *Prof. Vasudev Varma*. Worked on Style Transfer, Hate speech detection and Body shaming classification. Published two research papers during this period - Fine grained hate speech detection and Body shaming detection.
- **Independent Study** at NLP lab under *Prof. Manish Shrivastava*. Worked on the problem of Improving Abstractive Sumarization with content selection.
- **Teaching Assistant** under Prof. Vineet Gandhi for Statistical Methods in AI (Spring 2020 - ML Elective).

Skills & Awards

Programming Languages: *Advanced:* Python, MySQL *Intermediate:* C++, Java, MATLAB, C *Beginner:* Javascript, Verilog, Cadence, BlueSpec.

Tools & Frameworks: *Advanced:* Spring, Keras, PyTorch *Intermediate:* PySpark, HTML, CSS, Grafana, PowerBI, Gatling, Splunk, Jenkins, MongoDB.

Achievements: Awarded Dean's List Award for Academic Excellence, Secured first place in Walmart Hackathon @ IIIT-H amongst 64 teams, Part of nation's top 250 in Physics and Chemistry Olympiad

Relevant Projects

- **Information Retrieval - Wiki Search Engine**: Developed a scalable search engine on a static Wikipedia dump of 64GB using distributed indexing, searching and ranking.
- **Operating Systems - C Shell**: Built a user-interactive mini linux shell having major features of GNU/Linux shell like redirection, piping and handling foreground and background processes using system calls.
- **NLP - Summarization**: Developed a top performing model for sentence pair classification and Scientific Domain Summarization, as part of CL- SciSumm shared task using Siamese Networks.
- **Database Systems - MiniSQL Engine**: Developed a mini SQL engine in python with features like joining, duplicate elimination, selection and projection. Implemented B+ trees for indexing.
- **Computer Networks - Proxy Server**: Implemented a multi-threaded proxy server which serves multiple requests from users using TCP/UDP protocols for file transfer with LRU (least recently used) caching for faster file transfer.
- **ML - Face Recognition**: Achieved an accuracy of over 90% accuracy on multi-label classification of facial images using dimensionality reduction and Logistic Regression, Naive bayes built from scratch.
- **Speech Recognition**: Built an ML model to detect Pathological Speech Signals using Mel Frequency Cepstral Coefficients on LP Residual. Additionally, explored the performance with Jitta and Shim features.

Publications

'You Are Big, S/he Is Small' Detecting Body Shaming in Online User Content: International Conference on Social Informatics'23
Hate Speech Detection using Classical Machine learning and Transfer learning based approaches: HASOC, sub track at Forum For Information Retrieval 2020 (FIRE'20)