YASHWANTH BABU VUNNAM

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RESEARCH INTERESTS

AI & IR: Natural Language Processing, Question-Answering models, Machine Learning.

EDUCATION

Indian Institute of Technology, Kharagpur 2018 - 2022
B.Tech, Major in Electronics and Electrical Communication Engineering **9.02/10**
Minor in Computer Science and Engineering **9.60/10**
Sri Chaitanya Narayana Junior College 2016 - 2018
Telangana State Board of Intermediate Education **98.4%**
Aakanksha High School April 2016
Telangana State Board of Secondary Education (BSET) **9.8/10**

PUBLICATIONS

ACM FAccT 2023

- A.Dash, S.Jaiswal, **Y.B.Vunnam**, N.Shroff, A.Mukherjee, S.Ghosh. "Sponsored is the New Organic: Quantifying the Extent of Private Label Product Promotion on E-commerce Search" [In preparation]

RESEARCH EXPERIENCE

BTP — Private Label Product Promotion on E-commerce Search December'21 - July'22
Prof. Animesh Mukherjee, Prof. Saptarshi Ghosh ***Technologies and Tools:*** *Python, Selenium*

- Investigated potential biases in current e-commerce marketplace 'Flipkart' from its search engine result pages.
- Analyzed and visualized strategic placement of Private label products, ads and Dark patterns on the marketplace.
- Designed a novel audit strategy by mimicking a conventional e-commerce website, to observe click and order patterns of customers with strategic placement of advertised and Private Label products.

Rumor detection and stance classification in tweets August'21 - November'21
Prof. Saptarshi Ghosh — IR Term Project ***Technologies and Tools:*** *Python, SNAP, NLTK*

- Enhanced accuracy by **2%** by using stance classification from 'Multi-task Learning for Rumor Verification' in 'Going Beyond Content Richness: Verified Information Aware Summarization of Crisis-Related Microblogs' Tree LSTM-based rumor detection.
- Processed the PHEME9 data set for both top-down and bottom-up approaches to suit 'Rumor Detection on Twitter with Tree-structured Recursive Neural Networks' model.

Entity resolution in Publication Data February'21 – April'21
Prof. Bivas Mitra — Complex Networks Term Project ***Technologies and Tools:*** *Python*

- Explored the relevance of existing Entity resolution models on publication dataset.
- Developed a model by incorporating citation network with the existing models which use only textual information.
- Extracted citation data from publication datasets and incorporated the similarity measures calculated from the citation network into our model.

Ontology Creation for Sports August'19 – November'19
Prof. Plaban Kumar Bhowmick ***Technologies and Tools:*** *Protégé, openRDF, OWL, SPARQL, python*

- Developed a Sports statistics system, which would provide the respective sports statistics for the SPARQL query the user puts.
- Extracted data from various websites and merged the data into respective categories.

- Created a federated ontology using Protégé in a combination of both top-down and bottom-up approaches.
- Created Semantic mappings for every attribute and loaded the data into an RDF triple store.

Customer Life Time Value For Auto Insurance Company — OPEN IIT August'19 – November'19
Technologies and Tools: *Python, scikit Learn*

- Explored various machine learning models to predict Customer Lifetime value.
- Processed and visualized data and performed multivariate analyses. Performed stratified shuffle split on the data.
- Achieved an accuracy of 86% when predicted using a deep-forest regression model.

INDUSTRIAL EXPERIENCE

Samsung India Electronics Pvt Ltd. (Samsung R&D Institute) — Delhi, India July'22 - Present
Software Engineer ***Technologies used:*** *Python, Django, ReactJs*

- Added a new feature to an existing implementation to visualize internal service data in the OPS portal team.
- Automated Cloud workspace vendor data sync of 700+ instances of internal services of Samsung TV.
- Performed portal maintenance and upgrades including patches and hotfixes.

Software Engineer Intern June'21 - July'21
Project: **Video Streaming — HTTP Live Streaming** ***Technologies used:*** *Python, ffmpeg, HLS*

- Developed a utility to download video segment files from an m3u8 url (media folder in server) to a local destination.
- Provided a utility to create a master m3u8 file for both VOD and live streaming purposes with the support for multiple bit-rates.
- Adapted the utility to support LL-HLS to lower the video latencies while also maintaining its scalability.

RELEVANT COURSES

Algorithms-I — Programming and Data Structures — Principles of Programming Languages — Probabi ty and Stochastic Processes — Digital Electronics Circuits — Foundations of Entrepreneurship — Deep Learning — Machine Learning — Image Processing — Matrix Algebra — Information Retrieval — Complex Networks — Knowledge Modelling and Semantic Technologies — Data Structure & Object Representation — Computer Architecture and Operating System — High Performance Parallel Programming.

AWARDS AND ACHIEVEMENTS

- Secured All India Rank **853** in JEE advanced 2018 and All India Rank **355** in JEE main 2018.
- Acquired the **KVPY Fellowship** under the Kishore Vaigyanik Protsahan Yojana, 2016 in the SA stream.

SKILLS

- **Programming Languages:** C, C++, Python, JavaScript, Octave.
- **Tools & Technologies:** Git, HLS, Ffmpeg, HTML, CSS, OWL, MATLAB, TensorFlow, Protégé, ReactJs, Django, Selenium.

POSITIONS OF RESPONSIBILITY

Secretary Maintenance at VidyaSagar Hall of Residence — IIT Kharagpur September'19 - May'20

- Monitored Hall meetings, hygiene, service time, outsourced worker presence, daily maintenance of VidyaSagar Hall of Residence. Organized and managed UDBHAV and VSPL events in VidyaSagar Hall of Residence.

EXTRA-CURRICULAR ACTIVITIES

- NSO Volleyball team member. Participated in InterHall Volleyball and Cricket Competition, General Championship.
- Part of Silver Winning Illumination Team of Lal Bahadur Shastri Hall of Residence for the year 2018-19.
- Part of Silver Winning Rangoli Team of VidyaSagar Hall f Residence for the year 2019-20.