

Debashish Roy

@debashish.roy@myyahoo.com

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Debashish

+91-7000992323

IIITH, Hyderabad 500032

EDUCATION

International Institute of Information Technology, Hyderabad

Master of Technology in Computer Science and Engineering (CGPA: 8.92/10)

Hyderabad, India

Aug '21 - April '23

Jabalpur Engineering College, Jabalpur

Bachelor of Engineering (Hons.) in Information Technology (GPA: 8.12/10)

Jabalpur, India

Aug '16 - July '20

EXPERIENCE

Centre for Visual Information Technology (CVIT)

IIIT, Hyderabad, India

Independent Study with Prof. Makarand Tapaswi

Jan '23 -

- Exploring the developments in **vision and language** scoring to improve alignments between plot synopsis and videos
- Enhancing score, by using modalities like speech, body language, facial expressions, and actions, to get better R@k
- Working on text to video retrieval system over the **Condensed Movie dataset**, using Max-Margin Ranking Loss

DreamVu Inc.

Hyderabad, India

Software Development Engineer Intern

May '22 - Aug '22

- Deployed **Debian Packages** of DreamVu to **GitHub** for the users to download and update packages automatically using **apt**
- Developed a process for porting bash script-based installation system to Debian Packages
- The Debian based way of installing packages **decreased installation time by 91%**
- Updates** can be provided as a part of the normal update process of Debian and don't require separate instructions

Google Summer of Code at NRNB

Remote

Software Engineer Intern with Prof. Herbert Sauro

June '20 - Aug '20

- Modified existing plugins in **Plugin Loader System** such that it works independently from the **libRoadRunner**(host)
- Simplified development of New Plugins by detaching the need to rebuild the whole system to deploy one plugin
- Removed legacy code of **RRPlugin** and Ported sample codes for plugins from python 2 to python 3

Google Summer of Code at NRNB

Remote

Software Engineer Intern with Prof. Herbert Sauro

May '19 - Aug '19

- Integrated **RRPlugin** (Plugin Manager) and **Libroadrunner**, high performance & portable simulation engine to load plugins
- This resulted in the **reduction of build time by 25%** and eases the overall build process for the Libroadrunner
- Used **SWIG** to develop a **Python Wrapper** for plugins provided in C++ to the Python developers for faster computation

PROJECT

Wikipedia Search Engine (Indexing and Ranking Application)

Sep '22 - Oct '22

- Built a scalable and efficient **Search Engine** on a large **Wikipedia Dump** of size around 80GB
- Parsed the XML dump, processed words and created an **Inverted Index** by recording word counts on each page
- Facilitated **Multi-Field Query Search**, which consists of query based on title, categories, external links, body, etc
- Implemented **Page Ranking** mechanism using **Tf-Idf metric**. Optimized for index creation and index size and search time

Explainable Detection of Online Sexism (SemEval Shared Task 2023)

Dec '22 - Jan '22

- Implemented a **PyTorch** model for Detecting Online sexism by combining DeBERTa & RoBERTa to yield an F1 score of **82.96**
- Improved the model by **2.7%**, using **Domain Adaptive Pretraining** which trains on **mask language modeling** over 2M sample
- To explain the cause of sexist text, we performed classification over category of sexism and fine-grained category of sexism
- Submitted paper at **SemEval 2023, ACL**, which is under review as of now.

Story Generation given Prompt

Oct '22 - Nov '22

- Implemented a **Two Layered, Fine Tuned GPT2** architecture to write a story based on the prompt provided
- First layers consist of the prompt and outline generated using **Text Rank**
- Second Layer takes prompts and outlines to generate a story. Both the layers are trained on **Cross Entropy Loss**

COURSES

• **Intelligent Systems Courses:** Statistical Methods in AI, Introduction to NLP, Computational Social Science, Information Retrieval and Extraction, Advanced NLP, Computer Vision, Topics in Deep Learning, Behavioral Research: Statistical Methods.

SKILLS

- Programming:** C++, C, Python, Bash, HTML, CSS, MySQL
- Other Technologies:** Git, Linux, Pytorch, SWIG

ACHIEVEMENTS

- Awarded **Dean's Merit List 1** for academic excellence during Masters at IIIT Hyderabad
- Achieved **AIR 70** in **JEST**(Joint Entrance Screening Test) 2020 Theoretical Computer Science
- Selected for the **ACM International Collegiate Programming Contest Regional, Amritapuri.**

Aug '21 - May '22

Jul '20 - Jul '20

Dec '18 - Dec '18