

Somesh Singh

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EXPERIENCE

ADOBE, NOIDA | INCOMING RESEARCH INTERN

Jan 2022

- Working on adversarial Natural Language processing and causal modelling.

COMMERCEIQ, BANGALORE | DATA SCIENTIST (INTERN)

July 2021 – Jan 2022

- Working on advertisement optimization on e-commerce platforms such as Amazon and Walmart.

MIDAS LABS, IIIT DELHI | RESEARCH INTERN

May 2020 – Current | Delhi, India

- Research: Gradient estimation based white-box **adversarial attacks** and black box attacks on Automatic Essay Scoring (AES) systems with customized policies using Tensorflow and Pytorch.
- Worked on generating data free adversaries, investigating dataset bias and worked on post-hoc protection mechanisms against adversarial attacks.
- Supervised by** Prof. Rajiv Ratn Shah (Dept. of CSE & HCD, IIIT Delhi).

MYSMARTPRICE WEB TECHNOLOGY | DATA ANALYST AND SOFTWARE DEVELOPMENT INTERN

May 2020 – July 2020 | Hyderabad, India

- Built Knowledge-based active and passive **recommendation systems** using Bayesian and Non-Bayesian methods using Java, Python, Django and RESTful APIs.

PROJECTS

CODE-SOUP | OPEN-SOURCE

- Collection of easy to understand Algorithms in "Adversarial Deep Learning" written by Dr. Di Jin, Dr. Yifang Yin, Yaman Kumar, and Dr. Rajiv Ratn Shah, and its tutorials.
- URL:**Code-Soup

DECEPTICONLP | OPEN SOURCE PROJECT, LEAD DEVELOPER

March 2020 - Present

- DecepticoNLP is a Python based PyTorch Wrapper for robustness monitoring and adversarial debugging of NLP models powered by Travis CI.
- DecepticoNLP has implementations of various character & word level adversarial perturbations for text.
<https://github.com/SforAiDL/decepticonlp>

FLAIREDDIT | MACHINE LEARNING WEBAPP

April 2020

- Built a complete text classification web-app using Python and PyTorch and deployed it on Heroku which scrapes data from Reddit, pre processes and classifies its flair tag.
URL:<https://github.com/someshsingh22/FlaiReddit-MIDAS>

EDUCATION

BIRLA INSTITUTE OF TECHNOLOGY AND SCIENCE, PILANI

B.E. (HONS.) IN COMPUTER SCIENCE,
MINOR IN DATA SCIENCE

Expected July 2022 | Goa, India

CGPA - Minor: 9/10, Overall: 7.86/10

PUBLICATIONS

AAAI-2022

MINIMAL: Mining Models for Data Free Universal Adversarial Triggers

SEMEVAL-2020

BPGC at SemEval-2020 Task 11: Propaganda Detection in News Articles with Multi-Granularity Knowledge Sharing and Linguistic Features based Ensemble Learning

PRE-PRINT

Automatic Essay Scoring Systems Are Both Overstable And Oversensitive: Explaining Why And Proposing Protection Mechanisms (Review)

SKILLS

Python, C/C++, Java,
Tensorflow/PyTorch, AWS, Django/Flask

COURSEWORK

GRADUATE

Meta Learning

UNDERGRADUATE

Machine Learning, Natural Language Processing, Information Retrieval, Computer Programming (*Teaching Assistant*) Data Structures & Algorithms, Deep Learning, Applied Statistical Methods, Artificial Intelligence, Foundations of Data Science, Database Systems, Operating System,

SOCIETIES

Events Head, PoR, CTE, Core member, SAIDL, Head of Duties, LRG