Souvik Bhattacharya

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NLP | Grounded Language Learning | Language and Vision | Multimodality | Neural Networks | Robotics | Misinformation

EDUCATION

University of Illinois at Chicago, Chicago, IL   **Jan 2021 - Present**
Master of Science (Thesis), Computer Science   GPA: 3.75/4.00
Natural Language Processing Laboratory

Visvesvaraya Technological University, Bengaluru, India   **Aug 2015 - Jul 2019**
Bachelor of Engineering, Information Science and Engineering   GPA: 3.52/4.00
IEEE Student Member, Computer Science Society

PUBLICATIONS

- Ankit Aich*, **Souvik Bhattacharya*** and Natalie Parde. **Demystifying Neural Fake News via Linguistic Feature-Based Interpretation**. In the *Proceedings of the 29th International Conference on Computational Linguistics (COLING 2022)* Gyeongju, Republic of Korea, October 12-17, 2022.

*Indicates joint first authorship

RESEARCH

Detecting and Analyzing Vulnerabilities of Automated Fake News Detectors (Master's Thesis)   **Jan 2022 - Present**

- Examined automate fake news detectors via linguistic feature-based interpretation. Created neural fake news by a fusion of **Generative Modeling** and **Long Short-Term Memory Networks (LSTM).** Built specialized datasets with increasingly challenging misinformation. Analyzed features to measure their performance in identifying fake news and evading automated detectors.

Human-Robot Interaction   **August 2021 – December 2021**

- Explore the Social and Psychological Effects of **Interactions** between **humans** and **robots**. Designed specific tasks to be performed in control settings and measure how and when a robot (Misty) reacts to a stressed human subject in a **semi-interactive experimental environment**.

PROJECTS

Autonomous Navigation

- Worked with the team participating at the annual **NASA RMC Lunabotics** contest.
- Investigated methods to develop an **autonomous system** for a **mining robot**.
- Implemented bug algorithms to enable the mining robot to traverse autonomously.

Unique Name Generator

- Developed a Character Level **RNN** by implementing the Long Short-Term Memory **(LSTM)** architecture using **Pytorch**
- Built a program which accepted a letter from the user and generated 20 unique names beginning with the entered letter

EXPERIENCE

Graduate Teaching Assistant – University of Illinois at Chicago, Chicago, IL   **Aug 2021 – May 2022, Aug 2022 - Present**

- **Lead** classes of over 300 students helping them understand the course materials, lab work and homework
- Conduct weekly 1-1 sessions to **empower students**, addressing their individual course related queries
- **Collaborate** with professors and other TAs to design assignments, quizzes and maintain records

Computer Vision Intern, Inkers Technology   **May 2018 - Jul 2018**

- Incorporated **computer vision** models to develop software for **autonomous objects**
- Developed a real-time object recognition model to support autonomous navigation using **Pytorch**
- Optimized deep learning model to improve pedestrian recognition
- Collaborated with other engineers and **presented findings** to the leadership team

SKILLS

Programming Languages: Python, C, Modern C++
Libraries/Frameworks: ROS, Tensorflow, Keras, Pytorch, OpenCV, Matlab