

# YASAS WIJESURIYA

Ph.D. Candidate / Graduate Research Assistant / Other Names: Senarath

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## INTERESTS

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Social Computing, Data Mining, Natural Language Understanding, Disaster Informatics

## EDUCATION

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**College of Engineering and Computing** Aug 2019 – Present

*George Mason University, United States*

- Ph.D. (Information Technology), Advisor: Dr. Hemant Purohit

**College of Engineering and Computing** Aug 2019 – Aug 2022

*George Mason University, United States*

- *M.Sc.* (Applied Information Technology), Advisor: Dr. Hemant Purohit
- Concentration: Cyber-Human Systems (CBHS)

**Department of Computer Science and Engineering** Jan 2018 – Jun 2019

*University of Moratuwa, Sri Lanka*

- Research based *M.Sc.* in Data Science
- DataSEARCH: Data Science, Engineering and Analytics Research Hub

**Department of Computer Science and Engineering** Jan 2014 – Jan 2018

*University of Moratuwa, Sri Lanka*

*GPA: 3.95/4.20*

- B.Sc. Eng. (Hons.) - Bachelor of Science in Engineering (Honours)

## EXPERIENCE

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**Graduate Teaching Assistant** Aug 2025 – Present

*Information Sciences and Technology*

*George Mason University, US*

- Assisting in Database Fundamentals (IT-214) and Data Analytics in Social Media (AIT-724) courses.
- Conducting hands-on lab sessions and evaluating assignments with timely feedback to support student learning.

**Graduate Research Assistant** Aug 2019 – Aug 2025

*Humanitarian Informatics Lab (Human-Info-Lab)*

*George Mason University, US*

- Analyze human behavior from social media data related to natural hazards and societal crises (stereotyping, hate-based violence) for decision support in government agencies.
- *Research Focus:* (1) Using knowledge bases to improve context understanding of deep learning based classification models for continual learning. (2) Mining intentional behavior on social media relevant to disaster resilience.

**Graduate Research Assistant** Jun 2021 – Aug 2021

*Center for Climate Change Communication*

*George Mason University, US*

- Analyzed the effectiveness of educational events related to Climate Change Communication by modeling the divergence in the communication behavior of participants using their social media content posted over time.

**Graduate Research Assistant** Jan 2018 – Jul 2019

*Data Science, Engineering and Analytics Research Hub (DataSEARCH)*

*University of Moratuwa, LK*

- Researched methods for fine-grained emotion detection in Tweets using transfer learning.

## Visiting Instructor

Department of Computer Science and Engineering

Jan 2018 – Jul 2019

University of Moratuwa, LK

- Visiting Instructor for subjects in Data Science, Advanced Algorithms, and Data Structures

## Trainee Software Engineer

Undergraduate Internship

Jul 2016 – Dec 2016

CodeGen International (PVT) Ltd., LK

- Opinion and Entity Extraction from reviews related to tourist attractions.

## PUBLICATIONS\*

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### Knowledge-guided Continual Learning for Behavioral Analytics Systems

Senarath, Yasas; Purohit, Hemant;

*The IEEE International Conference on Cognitive Machine Intelligence (IEEE-CogMI)*

2025

### Lifelong Learning Framework for Multilingual Hate Speech Detection in Social Media Streams

Senarath, Yasas; Purohit, Hemant;

*The International Conference on Social Computing, Behavioral-Cultural Modeling, & Prediction and Behavior Representation in Modeling and Simulation (SBP-BRiMS)*

2024

### Closing the Knowledge Gap in Designing Data Annotation Interfaces for AI-powered Disaster Management Analytic Systems

Ara, Zinat; Salemi, Hossein; Hong, Sungsoo Ray; Senarath, Yasas; Peterson, Steve; Hughes, Amanda Lee; Purohit, Hemant;

*The International Conference on Intelligent User Interfaces (IUI)*

2024

### Designing a Human-centered AI Tool for Proactive Incident Detection Using Crowdsourced Data Sources to Support Emergency Response

Senarath, Yasas; Mukhopadhyay, Ayan; Purohit, Hemant; Dubey, Abhishek;

*Digital Government: Research and Practice (DGOV)*

2024

### Citizen-helper system for human-centered AI use in disaster management

Senarath, Yasas; Pandey, Rahul; Peterson, Steve; Purohit, Hemant;

*The International Handbook of Disaster Research*

2023

### Summarizing Social Media & News Streams for Crisis-related Events by Integrated Content-Graph Analysis: TREC-2023 CrisisFACTS Track

Salemi, Hossein; Senarath, Yasas; Sharika, Tarin Sultana; Gupta, Anuridhi; Purohit, Hemant;

*The Text REtrieval Conference Proceedings (TREC)*

2023

### Violence-Inducing Behavior Prevention in Social-Cyber Space

Senarath, Yasas; Purohit, Hemant; Akerkar, Rajendra;

*The International Symposium on AI, Data and Digitalization (SAIDD)*

2023

### A Comparative Study of Pre-trained Language Models to Filter Informative Code-mixed Data on Social Media during Disasters

Salemi, Hossein; Senarath, Yasas; Purohit, Hemant;

*The International Conference on Information Systems for Crisis Response and Management (ISCRAM)*

2023

### EVO-LYZER: Social Media Mining System for Evolving Communication Behavior Analytics to Aid Climate Change Programs

Senarath, Yasas; Borth, Amanda; Maibach, Edward; Purohit, Hemant;

*The ICWSM Workshops: Networks and Opinions on Climate Action in the Public Sphere (NOCAPS)*

2022

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\*Publications appear under the name: Yasas Senarath

- PROBER: A System for Real-time Propaganda Behavior Analytics on Social Media and Web Data Streams**  
 Senarath, Yasas; Anastasopoulos, Antonios; Thornton, Tonya; Purohit, Hemant;  
*The IEEE International Conference on Big Data (Big Data)* 2022
- Human-AI Teaming for COVID-19 Response: A Practice & Research Collaboration Case Study**  
 Hughes, A; Stephens, Keri K; Peterson, Steve; Purohit, Hemant; Harris, Anastazja G; Senarath, Yasas; Jarvis, S  
 Ashley; Montagnolo, Carolyn E; Nader, Karim;  
*The International Conference on Information Systems for Crisis Response and Management (ISCRAM)* 2022
- Mining risk behaviors from social media for pandemic crisis preparedness and response**  
 Senarath, Yasas; Peterson, Steve; Purohit, Hemant; Hughes, Amanda L; Stephens, Keri K;  
*International Conference on Social Computing, Behavioral-Cultural Modeling & Prediction and Behavior Representation in Modeling and Simulation (SBP-BRIMS)* 2021
- Towards a Design of Resilience Data Repository for Community Resilience**  
 Nguyen, Hoang Long; Senarath, Yasas; Purohit, Hemant; Akerkar, Rajendra;  
*International Conference on Information Systems for Crisis Response and Management (ISCRAM)* 2021
- Evaluating the relevance of UMLS knowledge base for public health informatics during disasters**  
 Senarath, Yasas; Chan, Jennifer; Purohit, Hemant; Uzuner, Ozlem;  
*The International Conference on Information Systems for Crisis Response and Management (ISCRAM)* 2021
- Online-computer-mediated interviews and observations: Overcoming challenges and establishing best practices in a human-AI teaming context**  
 Stephens, Keri; Nader, Karim; Harris, Anastazja; Montagnolo, Caroline; Hughes, Amanda; Stevens, Ashley; Wijesuriya, Yasas Pramuditha Senarath; Purohit, Hemant;  
*The Proceedings of the 54th Hawaii International Conference on System Sciences (HICSS)* 2021
- Practitioner-centric approach for early incident detection using crowdsourced data for emergency services**  
 Senarath, Yasas; Mukhopadhyay, Ayan; Vazirizade, Sayyed Mohsen; Purohit, Hemant; Nannapaneni, Saideep;  
 Dubey, Abhishek;  
*The IEEE International Conference on Data Mining (ICDM)* 2021
- Efficient detection of multilingual hate speech by using interactive attention network with minimal human feedback**  
 Vitiugin, Fedor; Senarath, Yasas; Purohit, Hemant;  
*The 13th ACM Web Science Conference 2021* 2021
- Emergency incident detection from crowdsourced waze data using bayesian information fusion**  
 Senarath, Yasas; Nannapaneni, Saideep; Purohit, Hemant; Dubey, Abhishek;  
*The IEEE/WIC/ACM International Joint Conference on Web Intelligence and Intelligent Agent Technology (WI-IAT)* 2020
- Evaluating semantic feature representations to efficiently detect hate intent on social media**  
 Senarath, Yasas; Purohit, Hemant;  
*The IEEE International Conference on Semantic Computing (ICSC)* 2020
- ACTSEA: annotated corpus for Tamil & Sinhala emotion analysis**  
 Jenarthanan, Rajenthiran; Senarath, Yasas; Thayasivam, Uthayasanker;  
*The Moratuwa Engineering Research Conference (MERCon)* 2019
- A hybrid approach for aspect extraction from customer reviews**  
 Senarath, Yasas; Jihan, Nadheesh; Ranathunga, Surangika;  
*The International Journal on Advances in ICT for Emerging Regions* 2019

### **Affect level opinion mining of Twitter streams**

Senarath, Yonas;

*University of Moratuwa, Sri Lanka*

2019

### **DataSEARCH at IEST 2018: multiple word embedding based models for implicit emotion classification of tweets with deep learning**

Senarath, Yonas; Thayasivam, Uthayasanker;

*The Workshop on Computational Approaches to Subjectivity, Sentiment and Social Media Analysis*

2018

### **Aspect extraction from customer reviews using convolutional neural networks**

Jihan, Nadheesh; Senarath, Yonas; Ranathunga, Surangika;

*The International conference on advances in ICT for emerging regions (ICTer)*

2018

### **Multi-domain aspect extraction using support vector machines**

Jihan, Nadheesh; Senarath, Yonas; Tennekoon, Dulanjaya; Wickramaratne, Mithila; Ranathunga, Surangika;

*The conference on computational linguistics and speech processing (ROCLING)*

2017

## **TALKS & PRESENTATIONS**

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### **Human-centered AI Use in Disaster Management using Crowdsourced Data**

2025

4th Workshop on Social Networks and Artificial Intelligence for Disaster Risk Management

## **HONORS AND AWARDS**

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### **Unbounded by Dell Technologies Hackathon**

2021

- Awarded for the 1<sup>st</sup> runner-up position for the CoviSave (COVID-19 safety) project in unbounded by Dell technologies hackathon hosted by Dell EMC.

### **CINTEC Award**

2018

- Awarded for the highest graded final year project at Department of Computer Science and Engineering, University of Moratuwa, Sri Lanka.

### **Gold Award for Most Outstanding Digital Communication Project**

2018

- Awarded by Rotaract District 3220 Sri Lanka & Maldives at the 28th rotaract district assembly held on 08/07/2018 for the community project TrainLK.

## **SKILLS**

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### **Technical Skills**

Python, PyTorch, Keras, Scikit-learn, Pandas, Numpy, JavaScript,  
Deep Learning, Machine Learning

### **Soft Skills**

Teamwork, Time Management, Communication, Presentation