

# AVISHA DAS

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## EDUCATION

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**University of Houston, Houston, TX**

*August 2020 (Expected)*

Ph.D. Candidate in Computer Science

**Thesis Advisor:** Dr. Rakesh M. Verma, Professor

**West Bengal University of Technology, Kolkata, India**

*June 2014*

B.Tech. in Electronics and Telecommunication Engineering

## RESEARCH INTERESTS

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Natural language processing; Natural language generation; Machine Learning; Deep learning; Data mining; Information retrieval; Security analytics.

## ACADEMIC EXPERIENCE

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**University of Houston**

August 2014 - Present

*Graduate Research Assistant*

*Houston, TX*

- **Dissertation Title:** Proactive Defense through Automated Generation of Targeted Attacks

*Graduate Teaching Assistant*

*Houston, TX*

- Software Design (COSC 4353/6353) [Spring'20]
- Machine Learning (COSC 6342) [Fall'19]
- Computer Organization and Architecture (COSC 6323) [Fall'18]
- Security Analytics (COSC 4397/COSC 6346) [Spring'18, Spring'19]
- Software Design (COSC 4353/6353) [Fall'17]
- Data Structures and Algorithms (COSC 3320) [Fall'16, Spring'17]

## INDUSTRY EXPERIENCE

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**Anadarko Petroleum Corporation**

May 2019 – August 2019

*Data Science Intern in Advanced Analytics and Emerging Tech. Team*

*The Woodlands, TX*

- Built a real-time human-like conversational agent deployed as a SlackBot serving as a virtual assistant for digital operations and field development.

**Halliburton Energy Services**

June 2018 – August 2018

*Summer Research Intern in Production Solutions Team*

*Houston, TX*

- Implemented a predictive model for automated detection of tool failure and alerts for system maintenance in real-time.

**2H Offshore Inc.**

June 2017 – August 2017

*Data Science Intern*

*Houston, TX*

- Completed a predictive time-series based model built using Autoregressive artificial neural network architectures for fast, reliable and effective Fatigue Damage Estimation in Offshore Drilling Riser Technology.

## AWARDS AND HONORS

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### Scholarships

- *Graduate Tuition Fellowship*, University of Houston, Fall 2014 – Present
- *Merit-based Scholarship for Undergraduate Education*, Ministry of Human Resources-India, 2010 -2014

### Participation and Travel Grants

- *Grace Hopper Conference for Women in Computing*, 2015, 2016, 2018
- *International Workshop on Security and Privacy Analytics*, 2017
- *Women in CyberSecurity*, 2016, 2017
- *Computing Research Association for Women*, 2015

## PUBLICATIONS

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### Journals

- El Aassal, A., Baki, S., **Das, A.**, & Verma, R. M. (2020). **An In-Depth Benchmarking and Evaluation of Phishing Detection Research for Security Needs.** *IEEE Access*.
- **Das, A.**, Baki, S., El Aassal, A., Verma, R., & Dunbar, A. (2019). **SoK: A Comprehensive Reexamination of Phishing Research from the Security Perspective.** *IEEE Communications Surveys & Tutorials*.
- Karimi, S., Moraes, L., **Das, A.**, Shakery, A., & Verma, R. (2018). **Citance-based retrieval and summarization using IR and machine learning.** *Scientometrics*, 116(2), 1331-1366.
- **Das, A.** & Verma, R. (2020). **Modeling Coherency in Generated Emails by Leveraging Deep Neural Learners.** *Computacion y Sistemas* [To Appear]
- **Das, A.** & Verma, R. (2020). **Can Machines Tell Stories? A Comprehensive Comparison of Pre-Trained and Fine-Tuned Deep Neural Language Models.** *Information Processing & Management* [Under Preparation]

### Workshops

- Zeng, V., El Aassal, A., Baki, S., Verma, R., Moraes, L. & **Das, A.** (2020). **Diverse Datasets and a Customizable Benchmarking Framework for Phishing.** *Proceedings of the 5th ACM on International Workshop on Security and Privacy Analytics*. [To Appear]
- **Das, A.**, & Verma, R. (2019). **Automated email Generation for Targeted Attacks using Natural Language.** *Workshop TA-COS (Co-located with Eleventh International Conference on Language Resources and Evaluation-LREC)*
- El Aassal, A., Moraes, L., Baki, S., **Das, A.**, & Verma, R. (2018). **Anti-Phishing Pilot at ACM IWSPA 2018: Evaluating Performance with New Metrics for Unbalanced Datasets.** *Proceedings of the 1st Anti-Phishing Shared Task Pilot at 4th ACM IWSPA co-located with 8th ACM Conference on Data and Application Security and Privacy (CODASPY 2018)*
- De Moraes, L. F., **Das, A.**, Karimi, S., & Verma, R. M. (2018). **University of Houston@ CL-SciSumm 2018.** *BIRNDL@ SIGIR (pp. 142-149)*.
- Verma, R., & **Das, A.** (2017, March). **What's in a URL: Fast feature extraction and malicious URL detection.** *Proceedings of the 3rd ACM on International Workshop on Security and Privacy Analytics (pp. 55-63)*.
- Karimi, S., Moraes, L. F., **Das, A.**, & Verma, R. M. (2017). **University of Houston@ CL-SciSumm 2017: Positional language Models, Structural Correspondence Learning and Textual Entailment.** *BIRNDL@ SIGIR (2) (pp. 73-85)*.

## PROFESSIONAL SERVICE

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### **Reviewing Services**

- Conference of the Asia-Pacific Chapter of the Association for Computational Linguistics (AACL)/ International Joint Conference on Natural Language Processing (IJCNLP)
- ACM International Workshop on Security and Privacy Analytics (Co-located with CODASPY)

### **Organizing Committee**

- First Security and Privacy Analytics Anti-Phishing Shared Task (IWSPA-AP 2018)