



Abdullah Abdulaziz Albanyan | Curriculum Vitae

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Education

University of North Texas, Texas, United States

Aug 2019 - May 2023

Ph.D., Computer Science and Engineering

GPA: 4.0/4.0

Dissertation Title: Deep Learning Methods to Investigate Online Hate Speech and Counterhate Replies to Mitigate Hateful Content

Research Area: Deep Learning, Natural Language Processing, Computational Linguistics

Southern Methodist University, Texas, United States

May 2012 - Dec 2013

M.Sc., Software Engineering

GPA: 3.87/4.0

King Saud University, Riyadh, Saudi Arabia

Sep 2004 - May 2009

B.Sc., Information Systems

Research Interests

Artificial intelligence, machine/deep learning, natural language processing, computational linguistics, information retrieval, sentiment analysis, and opinion mining on social media platforms

Employment History

Prince Sattam Bin Abdulaziz University

Oct 2023 - Present

Vice Dean for Academic Affairs

Prince Sattam Bin Abdulaziz University

June 2023 - Present

Assistant Professor

Prince Sattam Bin Abdulaziz University

May 2014 - June 2023

Lecturer

Prince Sattam Bin Abdulaziz University

Aug 2011 - May 2014

Demonstrator

King Saud University

Jun 2009 - Aug 2011

Demonstrator

Saudi Basic Industries Corporation (SABIC)

Apr 2008 - Aug 2008

Trainee

Employment Awards

- Excellence Award of Prince Sattam bin Abdulaziz University's Best Supervisor of student activity 2016 - 2017
- Ideal faculty member award for the year 2015 - 2016

Research Projects

1. Natural Language Processing Projects:

Hate speech and counterhate content on social media platforms The standard approach to mitigate hateful online content is removing content or blocking accounts. However, this way restricts free speech on social media. In addition, the content of the replies to the hateful content might reflect positively and add important information to the victims against the hateful claim. For this purpose, we conduct several studies focusing on hate speech and counterhate arguments on social media platforms:

A. Pinpointing Fine-Grained Relationships between Hateful Tweets and Replies (*English*) 2020 - 2021

We investigate the relationships between hateful tweets and replies on social media to understand how users react to hateful content. Additionally, we provide finer information on how they counter the hate.

This work was published at AACL-22 (AACL-22 acceptance rate was 15%) and selected to be presented (25% of the published papers were selected for presentation).

B. Mitigating the Risks of Counterhate Arguments (*English*) 2022 - 2023

We want to analyze replies to counterhate tweets to understand when a counterhate tweet increases the heat of the conversation and makes it more argumentative conversation or worse. Specifically, we want to understand what kind of language people use in their counterhate tweets that lead to more hate instead of stopping it. Additionally, we intend to create a neural classifier built on top of a pre-trained language model to identify the type of reply a counterhate tweet will elicit.

C. Analyzing replies to Arabic hateful tweets (*ongoing project*) (*Arabic*) 2024 - Present

We want to analyze the replies to Arabic hateful tweets to understand how people on social media platforms respond to Arabic hateful messages. We will create an Arabic tweet corpus with fine-grained information about the replies and a neural classifier to determine the relationship between hateful tweets and replies.

2. Image Processing Projects:

A. Deep Tumor Track Network 2017 - 2018

It has been drawn to our attention that the current physicians do not have an accurate tumor tracker than their natural sense. This may cause fatigue among physicians that may provide inaccurate results. Patients may also experience over-delivery of radiation to unwanted areas to radiation, which could extend unnecessarily long therapy sessions. The availability of advanced technologies to get the accurate position of tumors will allow physicians to reduce their fatigue while helping patients to reduce their recovery time and thus lower the medical costs for their treatment. This paper proposed a novel system for real-time tumor tracking on video using deep neural networks.

B. Document Boundary

2019 - 2020

An intelligent system that helps scan multiple documents at once, and the goal is to detect each document's last page automatically. The model reads overlapped documents and divides them into separate files, using novel techniques to build an intelligent model. The model separates the documents by detecting the last page of each file within the whole document. This system can help employees be time-consuming in arranging or collecting overlapping documents.

3. Software Engineering Projects:

- Power Rationalization System 2009
- Automated Alarm System Functional/ non-Functional Requirements 2012
- User Interface Design for Health Care Web Application 2012
- Test an Online Room Reservation System 2013

Publications

1. Liu, Yu, Muhammad Rizal Razman, Sharifah Zarina Syed Zakaria, Khai Ern Lee, Sajid Ullah Khan, and **Abdullah Albanyan**. "Personalized context-aware systems for sustainable agriculture development using ubiquitous devices and adaptive learning." *Computers in Human Behavior* 160 (2024): 108375.
2. Zahoor, Mirza Mumtaz, Saddam Hussain Khan, Tahani Jaser Alahmadi, Tariq Alsahfi, Alanoud S. Al Mazroa, Hesham A. Sakr, Saeed Alqahtani, **Abdullah Albanyan**, and Bader Khalid Alshemaimri. "Brain tumor MRI classification using a novel deep residual and regional CNN." *Biomedicines* 12, no. 7 (2024): 1395.
3. Louati, Ali, Hassen Louati, **Abdullah Albanyan**, Rahma Lahyani, Elham Kariri, and Abdulrahman Alabduljabbar. "Harnessing Machine Learning to Unveil Emotional Responses to Hateful Content on Social Media." *Computers* 13, no. 5 (2024): 114.
4. Louati, Hassen, Ali Louati, Rahma Lahyani, Elham Kariri, and **Abdullah Albanyan**. "Advancing Sustainable COVID-19 Diagnosis: Integrating Artificial Intelligence with Bioinformatics in Chest X-ray Analysis." *Information* 15, no. 4 (2024): 189.
5. Khan, Saddam Hussain, Tahani Jaser Alahmadi, Tariq Alsahfi, Abeer Abdullah Alsadhan, Alanoud Al Mazroa, Hend Khalid Alkahtani, **Abdullah Albanyan**, and Hesham A. Sakr. "COVID-19 infection

analysis framework using novel boosted CNNs and radiological images," *Scientific Reports* 13, no. 1 (2023): 21837.

6. **Abdullah Albanyan**, Ahmed Hassan, and Eduardo Blanco. 2023. Finding Authentic Counterhate Arguments: A Case Study with Public Figures. In *Proceedings of the 2023 Conference on Empirical Methods in Natural Language Processing (EMNLP)*, pages 13862–13876, Singapore. Association for Computational Linguistics (ACL).
7. **Abdullah Albanyan**, Ahmed Hassan, and Eduardo Blanco. 2023. Not All Counterhate Tweets Elicit the Same Replies: A Fine-Grained Analysis. **The 12th Joint Conference on Lexical and Computational Semantics (*SEM), Co-located with ACL 2023**, pages 71–88, Toronto, Canada. Association for Computational Linguistics.
8. Shabbab Algamdi, **Abdullah Albanyan**, and Stephanie Ludi. 2023. *Investigating the Usability Issues in Mobile Applications Reviews Using A Deep Learning Model*. **IEEE 13th Annual Computing and Communication Workshop and Conference (CCWC)**.
9. Shabbab Algamdi, **Abdullah Albanyan**, Sayed Shah, and Zeenat Tariq. 2022. *Twitter Accounts Suggestion: Pipeline Technique SpaCy Entity Recognition*. **IEEE International Conference on Big Data**, pp. 5121-5125.
10. **Abdullah Albanyan** and Eduardo Blanco. 2022. *Pinpointing Fine-Grained Relationships between Hateful Tweets and Replies*. **Proceedings of the AAAI Conference on Artificial Intelligence (AAAI)**, [Acceptance rate 15%], 36(10), 10418-10426.

Open-Sourced Projects (<https://github.com/albanyan>)

1. **Document Boundry**
<https://github.com/albanyan/DocumentBoundary>
2. **Analyze Replies to Hateful Messages**
<https://github.com/albanyan/hateful-tweets-replies>
3. **Mitigate the Risks of Counterhate Replies**
https://github.com/albanyan/counterhate_reply
4. **Finding Authentic Counterhate Arguments**
https://github.com/albanyan/counterhate_paragraph

Teaching Experience

- Software Project Management
- Fundamentals of Software Engineering

- Human-Computer Interaction
- Computer Programming (in C, C++, and Java)
- Discrete Mathematics

Work Responsibilities

- Supervisor of the cooperative training unit
- Supervisor of the Student Activities Committee
- Coordinator of the alumni committee
- Coordinator of scholarships committee
- Academic advising
- Representative of the training unit
- Representative of the alumni unit

Academic Services

- Program committee: AAAI 2023, AAAI 2024, AAAI 2025
- Reviewer: ACL 2023, EMNLP 2023

Additional Activities

- Organizer: Smart Cities Hackathon
- Consultant: Accounting Solutions Hackathon 2023, Accounting Solutions Hackathon 2024

Technical Skills

- Programming Python, C++, Java, R, Matlab
- Machine Learning Neural Networks, SVM, PCA, BiLSTM, CNN, etc.
- Pre-trained models BERT, Bertweet, Roberta, Longformer, ALBERT, etc.
- ML Tools PyTorch, Keras, TensorFlow

Personal Profile

- Fast learner
- Technical and Teaching skills
- Flexible, enthusiastic, motivated, and team-oriented

Workshops

- Learning Outcomes & Tests Matrix
- Designing electronic courses workshop
- Educational Output Assessment System for the College Programs
- Workshop about using blackboard in teaching
- GITEX technology exhibition in Dubai & Riyadh
- Information security workshop in KSU, Riyadh
- The second National Computing Colleges Conference, University of Hail