

# MAAZ AMJAD

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## PROVOST'S EARLY CAREER FELLOW

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### Early Career Fellow

*2023 - Present*

The University of Texas at Austin, United States

## POSTDOCTORAL TRAINING

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### Postdoctoral Fellow

*2022 - Present*

The University of Texas at Austin, United States

**Project: "TxCOPE"**: In my current capacity, I leverage my proficiency in the realms of artificial intelligence, data science, and machine learning - with a specific emphasis on natural language processing. My efforts are directed towards the creation and refinement of cutting-edge, data-informed algorithms. These are designed with the express intention of detecting indications of substance use disorders and potential opioid overdoses. By integrating these algorithms within a precision medicine framework, I aim to ensure that a comprehensive screening procedure is in place. This not only expedites the detection process, but also facilitates the precise implementation of both preventative and treatment modalities.

## EDUCATION

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### Ph.D. in Computer Science

*2018 - 2022*

Thesis: Automatic Detection of Fake Content in Digital Media Texts

Computing Research Center, Instituto Politécnico Nacional, Mexico

CUM LUADE

### Master of Science in Applied Mathematics and Informatics (with honors)

*2015 - 2017*

Thesis: Text Classification with Deep Learning Neural Networks

Moscow Institute of Physics and Technology, Russia

Overall GPA: 4.87/5

### BS(HON) in Mathematics

*2011 - 2015*

Thesis: Applications of Linear Algebra

Government College University, Lahore, Pakistan

Overall CGPA: 3.03/4

## TECHNICAL SKILLS

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Competence:	PYTHON, L <sup>A</sup> T <sub>E</sub> X, OVERLEAF, HTML, CSS, GIT, LIWC
Intermediate Knowledge:	C++, MATLAB, TABLEAU, SQL
Basic Knowledge:	FORTRAN, UXPIN
Libraries:	Pandas, NumPy, spaCy, SciPy, Seaborn, matplotlib, Scikit-learn, Keras, TensorFlow, Transformers, PyTorch, PyMongo, Plotly

## PUBLICATIONS AND CONFERENCE PROCEEDINGS

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### Journal Publications

- **Maaz Amjad**, Noman Ashraf, Alisa Zhila, Grigori Sidorov, Arkaitz Zubiaga, Alexander Gelbukh  
Threatening Language Detecting and Threatening Target Identification in Urdu Tweets. (*IEEE Access*, **2021**) [**Q1** journal].

- **Maaz Amjad**, Grigori Sidorov, Alisa Zhila, Helena Gómez-Adorno, Ilia Voronkov, Alexander Gelbukh  
“Bend The Truth”: Benchmark Dataset for Fake News Detection in Urdu Language and its Evaluation. (*Journal of Intelligent & Fuzzy Systems*, ISSN 1064-1246, **2020**) [Q2 journal].
- **Maaz Amjad**, Sabur Butt, Alisa Zhila, Grigori Sidorov, Liliana Chanona-Hernandez, Alexander Gelbukh  
Survey of Fake News Datasets and Detection Methods for Asian Languages and European Languages. (*Journal of Acta Polytechnica Hungarica*, Vol. 19(10), pp. 185-204, **2022**) [Q2 journal].
- **Maaz Amjad**, Noman Ashraf, Grigori Sidorov, Alisa Zhila, Liliana Chanona-Hernandez, Alexander Gelbukh  
Abusive language detection in Urdu language in Tweets. (*Journal of Acta Polytechnica Hungarica*, Vol. 19(10), pp. 143-163, **2022**) [Q2 journal].
- Mubarak Alkhatnai, Hamza Imam Amjad, **Maaz Amjad**, Alexander Gelbukh  
Methods and Trends of Machine Reading Comprehension in the Arabic Language. (*Computación y Sistemas*, Vol. 24, pp. 1607-1615, **2020**) [Q3 journal].

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## PUBLICATIONS AND CONFERENCE PROCEEDINGS

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### Conference Publications

- Sabur Butt, **Maaz Amjad**, Fazlourrahman Balouchzahi, Noman Ashraf, Rajesh Sharma, Grigori Sidorov, Alexander Gelbukh.  
EmoThreat@FIRE2022: Shared Track on Emotions and Threat Detection in Urdu.  
In Forum for Information Retrieval Evaluation (FIRE 22). ACM, New York, USA, **2022**.
- **Maaz Amjad**, Oxana Vitman, Grigori Sidorov, Alisa Zhila, Alexander Gelbukh.  
Analysis of Fake News Detection Methods.  
8th World Conference on Soft Computing, Baku, springer publication, **2022**.
- Sabur Butt, **Maaz Amjad**, Fazlourrahman Balouchzahi, Noman Ashraf, Rajesh Sharma, Grigori Sidorov, Alexander Gelbukh.  
Overview of EmoThreat: Emotions and Threat Detection in Urdu at FIRE 2022. In CEUR Workshop Proceedings, **2022**.
- **Maaz Amjad**, Sabur Butt, Hamza Imam Amjad, Alisa Zhila, Grigori Sidorov, Alexander Gelbukh.  
UrduFake@FIRE2021: Shared Track on Fake News Identification in Urdu.  
In Forum for Information Retrieval Evaluation (FIRE 21). ACM, New York, USA, **2021**.
- **Maaz Amjad**, Alisa Zhila, Grigori Sidorov, Andrey Labunets, Sabur Butt, Hamza Imam Amjad, Oxana Vitman, Alexander Gelbukh.  
UrduThreat@ FIRE2021: Shared Track on Abusive Threat Identification in Urdu.  
In Forum for Information Retrieval Evaluation (FIRE 21). ACM, New York, USA, **2021**.
- **Maaz Amjad**, Sabur Butt, Hamza Imam Amjad, Alisa Zhila, Grigori Sidorov, Alexander Gelbukh.  
Overview of the Shared Task on Fake News Detection in Urdu at FIRE 2021. In CEUR Workshop Proceedings, **2021**.
- **Maaz Amjad**, Alisa Zhila, Grigori Sidorov, Andrey Labunets, Sabur Butt, Hamza Imam Amjad, Oxana Vitman, Alexander Gelbukh.  
Overview of the shared task on threatening and abusive detection in Urdu at Fire 2021. In CEUR Workshop Proceedings, **2021**.

- **Maaz Amjad**, Grigori Sidorov, Alisa Zhila, Alexander Gelbukh, Paolo Rosso. Urdu-Fake@FIRE2020: Shared Track on Fake News Identification in Urdu. In Forum for Information Retrieval Evaluation (FIRE 20). ACM, New York, USA, **2020**.
- **Maaz Amjad**, Grigori Sidorov, Alisa Zhila, Alexander Gelbukh, Paolo Rosso. Overview of the Shared Task on Fake News Detection in Urdu at FIRE 2020. In CEUR Workshop Proceedings, **2020**.
- **Maaz Amjad**, Yuriria Rodriguez Chavez, Zaryyab Nayab, Alisa Zhila, Grigori Sidorov, Alexander Gelbukh. Analysis of COVID-19 Pandemic Using Artificial Intelligence. In Mexican International Conference on Artificial Intelligence (pp. 65-73). Springer, Cham, **2020**.
- **Maaz Amjad**, Alisa Zhila, Grigori Sidorov. Data Augmentation through Machine Translation for Fake News Detection in the Urdu Language. Proceedings of The 12th Language Resources and Evaluation Conference (LREC 2020), France, **2020**.
- **Maaz Amjad**, Ilia Voronkov, Anna Saenko, Alexander Gelbukh. Comparison of Text Classification Methods using Deep Learning Neural Networks. Proceedings of the 20th International Conference on Computational Linguistics and Intelligent Text Processing (CICLing 2019), France, **2019**.
- **Maaz Amjad**, Zhanibek Kaimuldenov, Ilia Voronkov. Text Classification with Deep Neural Networks. Text Classification with Deep Neural Networks. Proceedings of the 5th International Conference on Actual Problems of System and Software Engineering (APSSE 2017), Russia, **2017**.

## RESEARCH PROJECTS

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- **2021: Threat and Abusive language detection using Tweeter postings**
  - Collected, and annotated tweets in Urdu language, which is a low-resource language
  - Designed and developed socially-aware Artificial Intelligence systems on Urdu corpus
  - Evaluated the performance of the system on unseen dataset
  - Investigated the hidden pattern according to linguistic point of view and features engineering
  - Published the obtained results in a high impact factor journal
- **2020: Word-embeddings for Urdu Language**
  - Assembled Urdu corpus for threatening tweets and developed the guidelines for data annotation
  - Data pre-processing and text features creations
  - Implemented the machine learning pipeline on Urdu corpus containing threatening tweets
  - Data and linguistic /NLP analysis to examine the hidden pattern according to the linguistic point of view
  - Features engineering using machine learning algorithms
  - Published the obtained results in a high impact factor journal

- **2019: Fake News Detection in Urdu**
  - Data Collection, and annotation of news corpus
  - Designed and developed machine learning pipeline to identify fake news
  - Evaluated the performance of the system on unseen dataset
  - Features engineering using machine learning to determine false positives
  - Investigated the hidden pattern according to linguistic point of view and features engineering
  - Published the obtained results in a high impact factor journal
- **2020: Exploring Data Augmentation through MT approach for Fake News detection in low-resource languages**
  - Data Augmentation through machine translation is used to increase the dataset size
  - Analyze whether the translation of the news article from one language to another changes the veracity of the news article
  - Designed and developed machine learning pipeline to identify fake news
  - Evaluated the performance of the system on unseen dataset
  - Features engineering using machine learning algorithms
  - Published the obtained results in a well-known conference
- **2017: Text classification with Deep Machine Learning**
  - IMDB dataset was used for sentiment classification task
  - Analyzed whether the sentiment of the movie reviews were positive or negative
  - Designed and developed machine learning pipeline to solve the binary classification problem
  - Evaluated the performance of the different systems on unseen dataset
  - Published the obtained results in a well-known conference

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## ORGANIZATION OF INTERNATIONAL SHARED TASKS

- **EmoThreat: “Emotions & Threat Detection in Urdu”, CICLing 2022 UrduFake track @ FIRE.**  
 I was one of the main organizers of this competition, I set up evaluation; 21 teams reached out from many countries for datasets and 19 teams submitted the results on test dataset. **Link:** <https://sites.google.com/view/multi-label-emotionsfire-task/>
- **Fake News Detection Competition 2021: “Fake News Detection in the Urdu Language”, CICLing 2021 UrduFake track @ FIRE.**  
 I was the main organizer of this competition, I set up evaluation; 34 teams reached out from many countries for datasets and 18 teams submitted the results on test dataset. **Link:** <https://www.urdufake2021.cicling.org>
- **Threatening and Abusive Language Detection 2021: “Abusive and Threatening Language Detection Task in Urdu”, CICLing 2021 UrduFake track @ FIRE.**  
 I was the main organizer of this competition, I set up evaluation; 21 teams reached out from many countries for datasets and 9 teams submitted the results on test dataset. **Link:** <https://www.urduthreat2021.cicling.org>

- **Fake News Detection Competition 2020:** “Fake News Detection in the Urdu Language”, CICLing 2020 UrduFake track @ FIRE.  
I was the main organizer of this competition, I set up evaluation; 39 teams reached out from many countries for datasets and 9 teams submitted the results on test dataset. **Link:** <https://www.urdufake2020.cicling.org>

## INVITED TALKS

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- **April 2023:** The Impact of AI in Health Informatics.  
Dell Medical School, The University of Texas at Austin, United States
- **February 2020:** Deceiving AI is not that easy: a case for fake news detection.  
IT University of Copenhagen, Denmark
- **March 2020:** Pragmatist Media Ethics and the Challenges of Fake News.  
DPS & The Technical University of Munich (TUM), Germany
- **August 2019:** Automatic Detection of Fake Content in Digital Media Texts.  
International Workshop on Computational Linguistics, towards the deep analysis of digital documents, Mexico

## GRANTS FOR RESEARCH PROJECTS

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- **2021:** Financial Support for project “Automatic Learning Applied To Clinical Notes Texts For Skin Diseases Detection”, project ID: 20211784, worked as a participant, Sponsored by  
– Secretary for Research and Postgraduate Studies (IPN), Mexico
- **2020:** Financial Support for project “Automatic Analysis Of Changes In Writing Style Of Text Authors”, project ID: 20200797, worked as a participant, Sponsored by  
– Secretary for Research and Postgraduate Studies (IPN), Mexico

## HONOUR AND ACADEMIC AWARDS

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- **2018 - 2022:** Full Tuition Waiver Government Scholarship for PhD from  
– National Council of Science and Technology of Mexico (CONACYT), Mexico
- **2020 - 2022:** Institutional Stimulus Scholarship for Researcher Training (BEIFI) from  
– Ministry of Research and Postgraduate, Mexico
- **2021:** NeurIPS Financial Support, Sponsored by  
– Naver Labs Europe, DeepMind and Google AI
- **2021:** NAACL 2021 Financial Support, Sponsored by  
– Microsoft, Twitter, Amazon, Apple and Association for Computational Linguistics
- **2020:** NeurIPS Financial Support, Sponsored by  
– Amazon
- **2015 - 2017:** Full Tuition Waiver Government Scholarship for Masters from  
– Ministry of Education and Science of Russian Federation
- **2016 - 2017:** \$1,000 as additional funding on master’s performance (PGAS) from  
– Ministry of Education and Science of Russian Federation

- **2011 - 2015:** Punjab benevolent fund scholarship for BS (HON) from
  - The Government of Punjab, Pakistan
- **2014 - 2015:** Certificate of Merit from GC University, Lahore, Pakistan as
  - President of Chawala Mathematical Society, Pakistan
- **2013 - 2014:** Certificate of Merit from GC University, Lahore, Pakistan as
  - General Secretary of GC Library Society, Pakistan
- **2012 - 2014:** Certificate of Merit from GC University, Lahore, Pakistan as
  - Associate Editor of Scientific Ravi, Pakistan
- **2011 - 2012:** Got Laptop on HSC Marks base from
  - The Government of Punjab, Pakistan

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## PROFESSIONAL EXPERIENCE AND RESEARCH INTERNSHIPS

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- **September 2022 - December 2022:** Artificial Intelligence Researcher, HIDA, Germany
  - News Text processing
  - Text features creation and pipeline development
  - Applied data science, machine learning, and engineering skills to developed a prototype to identify droughts
- **November 2021:** Data Scientist, VALOREO, Mexico
  - Data analysis
  - Future sales prediction
  - Applied data science, machine learning, and engineering skills to developed a prototype to identify top selling products
- **October 2020 - December 2020:** Artificial Intelligence Engineer, EFINFO, Mexico
  - Data collection (print and electronic media) and designed pipeline for data warehouse
  - Data analysis and created dashboards
  - Landing page prototyping for the proof-of-concept
  - Features extraction to determine public opinion about personalities /organisations
  - Applied data science, machine learning, and engineering skills to develop a prototype for opinion mining.
- **January 2020 - March 2020:** Artificial Intelligence Engineer, UnternehmerTUM, Germany
  - Developed various algorithms to identify the hidden data patterns and dependencies and pioneering proof-of-concept (POC) for data-driven applications to detect deep fakes
  - Applied data science, machine learning, and engineering skills to develop a prototype to identify fake content. Interdisciplinary and cross-functional teamwork for AI-based product development
  - Agile product development (Scrum, retrospectives, planning, sprint reviews) and lean startup approach for risk validation through experiments

## REVIEWER FOR JOURNALS AND CONFERENCES

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### Journals

- Natural language engineering, Cambridge university press, Reviewer from 2023
- Computer Speech & Language, Reviewer from 2022
- PeerJ Computer Science, Reviewer from 2022
- Frontiers in Artificial Intelligence, Reviewer from 2022
- Applied Computational Intelligence and Soft Computing, Reviewer from 2022
- Journal of Ambient Intelligence and Humanized Computing, Reviewer from 2022
- Language Resources and Evaluation, Reviewer from 2022
- Expert Systems With Applications, Reviewer from 2022
- IEEE Access, Reviewer from 2022
- IEEE Intelligent Systems, Reviewer from 2022
- Jordanian Journal of Computers and Information Technology, Reviewer from 2022
- HKS Misinformation Review (Harvard Kennedy School), Reviewer from 2020
- International Journal of Data Science and Analytics (JDSA), Reviewer from 2020
- Journal of Intelligent & Fuzzy Systems, Reviewer from 2020
- Transactions on Asian and Low-Resource Language Information Processing, Reviewer from 2020
- Information Processing and Management, Reviewer from 2019
- Computación y Sistemas (English translation: Computing and Systems), Reviewer from 2018
- Research in Computing Science, Reviewer from 2018

### Conferences

- ACL, Reviewer from 2022
- NAACL, Reviewer from 2022
- COLING, Reviewer from 2022
- EMNLP, Reviewer from 2020
- LKE, Reviewer from 2020
- CORE, Reviewer from 2019
- MICAI, Reviewer from 2018
- CICLing, Reviewer from 2018

## MENTORSHIP

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- **Artificial Intelligence /NLP Mentorship** - I supervise doctoral students in research problem identification, experiments design for developing machine and deep learning pipelines. I also teach students how to transform experiments results into research publications at Binghamton University State University of New York, **United States**

- **Natural Language Processing /Text processing Mentorship** - I mentored Undergraduate and Masters students and helped them in supervising their thesis, formulating research problem, identifying research gaps, finding appropriate datasets for the task, developing machine and deep learning algorithms at Computing Research Center, Instituto Politécnico Nacional, **Mexico**
- **Artificial Intelligence Mentorship** - I advised students about problem identification, find appropriate dataset for the task, machine and deep learning algorithms, machine learning model deployment at Digital Product School, Germany teams in exploring AI applications, **Germany**

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## PROFESSIONAL MEMBERSHIPS

- Association for Computational Linguistics (ACL)
- Institute of Electrical and Electronics Engineers (IEEE)
- Association for Computing Machinery (ACM)
- Mexican Association for Natural Language Processing

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## CO-CURRICULAR ACHIEVEMENTS

2023 - PRESENT	Co-chair of Postdoc Association The University of Texas at Austin, <b>United States</b>
2018 - 2022	President International Students Association (CIC-ISA), <b>Mexico</b> <a href="https://www.cic.ipn.mx/index.php/isa-team">https://www.cic.ipn.mx/index.php/isa-team</a>
2014-2015	President Chawala Mathematical Society, <b>Pakistan</b>
2014-2015	Senior Vice President Environmental Protection Society, <b>Pakistan</b>
2014-2015	General Secretary Library Society, <b>Pakistan</b>
2014-2015	Member of Parliament Youth General Assembly of Pakistan, Pakistan
2013-2014	Associate Editor Scientific Ravi, Pakistan
2013-2014	Senior Vice president Horticultural Society, Pakistan
2012-2013	Vice president Blood Donor Society, Pakistan

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## ORGANIZATION AND ADMINISTRATION

- **2023:** Program Committee of WWW23 conference
- **2023:** Program Committee of ACL conference



- **2022:** Review Program Committee of COLING conference
- **2020 - 2022:** Program Committee of MICAI conference
- **2019 - 2020:** International Committee chair of CORE conference
- **2019:** Program Committee of CICLING conference

## LANGUAGES

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URDU: Native Language  
ENGLISH: Proficient, C2 Level  
SPANISH: Intermediate Knowledge, B1 Level  
ARABIC: Basic Knowledge, A1 Level