

# Damian Jimenez

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## Education

### Ph.D. Computer Science

The University of Texas at Arlington

Spring 2022 (Projected)

### BS Computer Science

The University of Texas at Arlington

Spring 2017

### BS Human Biology: Pathogenesis and Immunity

The University of Texas at Austin

May 2013

## Projects and Experience

### UT Arlington

#### Mitigating Bias in Claim-Spotting Models

Dissertation

2021-2022 (Projected)

- This work is part of my dissertation and centers around assessing and mitigating bias within claim-spotting models. Having observed some unwanted tendencies for our models to use certain protected attributes to guide how it scores claims, I am working on more formally assessing the bias and coming up with a framework to mitigate it. This could potentially be used by other claim-spotting projects, e.g., such as those coming out of QCRI or FullFact.

#### Automated Fact-checking

Fact-Checking

2018, 2019, 2020

- Developed several projects and respective API's for said projects. Some of those are [idir.uta.edu/claimbuster/api/](http://idir.uta.edu/claimbuster/api/) (a revamped version of the original ClaimBuster API) and [idir.uta.edu/claimportal/](http://idir.uta.edu/claimportal/). Worked on the claim-spotting model for ClaimBuster. Currently focusing on investigating bias and fairness within claim-spotting models.

ClaimSpotter

Spring/Fall 2017

- Worked together with a team to deploy a new version of the claim-spotting model that is BERT based and integrates adversarial training into the training loop to make the model more robust.

HeroX Challenge

Fall 2016

- Contributed to the Fast & Furious Fact Check Challenge sponsored by HeroX with a team from the lab group, the goal of which was to create an automated fact-checking system that could check different types of claims. It made use of the query answering system I had previously worked on.
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#### ClaimBuster API & Slack App

Fall 2016

- ClaimBuster API development and Slack integration via a chatbot. Developed a basic Restful API for the ClaimBuster platform and integrated the API into a Slack chatbot that responded to slash commands.

#### Claim to question conversion

Summer/Fall 2016

- Using NLP tools such as AlchemyAPI and WordNet, I explored different methodologies for extracting information from claims. Using a question generation system claims could then be queried using knowledge graphs or existing databases, and a conclusion to the veracity of the claim was made. Ran several experiments to assess the overall viability of the tool over various data sets.

#### Fact Checking with Freebase

Spring 2016

- Wrote queries in MQL to test whether factual statements could successfully be verified using a knowledge graph such as Freebase. Learned about the advantages of knowledge graphs and their properties within the context of fact checking.

### UT Austin

#### Angle of Repose of Powders

Fall 2012

Helped with constructing a setup to effectively track the angle of repose of different variations of lactose. Tracked the compression level of powders using image analysis, and made a GUI for the script using the PyQt toolkit.

#### Artificial Lung Project

Fall 2012

Helped with building a rudimentary lung to simulate breathing patterns. Researched different methods to control a stepper motor using a Python/Arduino interface to simulate a lung breathing via the opening and closing of a valve.

### Extracurricular, Achievements, & Personal Projects

#### IDIR Lab Infrastructure Development

2019, 2020, 2021

- Further developed and expanded our lab's infrastructure by consolidating our project servers in our own VLAN and having only one server proxy all the projects hosted on different servers under the idir.uta.edu domain. This has allowed us to expand our infrastructure into other buildings, increased the security of our projects, and laid the foundation for future expansion if needed.
  - Explored and launched a CI/CD solution for the lab. Seeing the overhead caused by having to teach new members how to navigate our network and launch projects on our servers motivated me to find a CI/CD solution for the lab. Using TeamCity it should be easier for new contributors to get started and merge and test out their contributions to our projects by simply syncing with GitHub.
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**CSE Department Web Developer**

Fall 2017, 2018, 2019, 2020

- Maintain and develop applications for the CSE department and work with a small team to keep the departmental website and applications up and running. Created a Python framework to gradually replace our PHP apps. Integrated authentication into the Python framework using the universities LDAP servers.

**Contributions to the CSE Department**

Spring 2019

**Award**

- Award received for contributing to the CSE department via the development of a new application infrastructure used for internal departmental applications.

**Nokia Outstanding Professional Program**

Spring 2017

**Computer Science Student**

- Award received for academic excellence as an undergraduate.

**SIGMOD Student Research Competition**

Spring 2017

- Research paper selected for the SIGMOD SRC and was runner up in the competition. I presented work aimed at progressing automated fact-checking.

**REU Participant**

Summer 2016

- Received funding for working in research projects sponsored by the NSF.

**Dean's List (College of Engineering)**

Spring/Fall of 2015 &amp; 2016, Spring 2017

- In recognition for maintaining a GPA above 3.75 as an undergraduate.

**HackDFW**

Spring 2016

- Participated in the hackathon with MOBI (mobile development club).

**NBA Hackathon**

Fall 2016

- Attended the hackathon with a group from the IDIR Lab, had to be selected through an initial screening to be able to attend the event.
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## Publications

- 1 K. Meng (co-first-author), D. Jimenez (co-first-author), F. Arslan, J. D. Devasier, D. Obembe, C. Li. Gradient-Based Adversarial Training on Transformer Networks for Detecting Check-Worthy Factual Claims. *27th SIGKDD Conference on Knowledge Discovery and Data Mining (KDD)*. Singapore (Online). August 2021. (Submitted)
  - 2 Z. Zhengyuan, K. Meng, J. Caraballo, I. Jaradat, X. Shi, Z. Zhang, F. Akrami, H. Liao, F. Arslan, D. Jimenez, M. S. Saeef, P. Pathak, C. Li. A Dashboard for Mitigating the COVID-19 Misinfodemic. *16th Conference of the European Chapter of the Association for Computational Linguistics (EACL)*. Kyiv, Ukraine (Online). April 2021.
  - 3 F. Arslan, J. Caraballo, D. Jimenez, C. Li. Modeling Factual Claims with Semantic Frames. *In Proceedings of the Twelfth International Conference on Language Resources and Evaluation (LREC)*. Marseille, France. May 2020.
  - 4 S. Majithia, F. Arslan, S. Lubal, D. Jimenez, P. Arora, J. Caraballo, C. Li. ClaimPortal: Integrated Monitoring, Searching, Checking, and Analytics of Factual Claims on Twitter. *Association for Computational Linguistics (ACL)*. Florence, Italy. July 2019.
  - 5 F. Arslan, D. Jimenez, J. Caraballo, G. Zhang, C. Li. Modeling Factual Claims by Frames. *In Proceedings of the 2019 Computation+Journalism Symposium*. Miami, Florida. February 2019.
  - 6 D. Jimenez, C. Li. An Empirical Study on Identifying Sentences with Salient Factual Statements. *IJCNN (IEEE WCCI)*. Rio de Janeiro, Brazil. July 2018.
  - 7 G. Zhang, D. Jimenez, C. Li. Maverick: Discovering Exceptional Facts from Knowledge Graphs. *Proceedings of the 2018 ACM SIGMOD International Conference on Management of Data (SIGMOD)*. Houston, Texas, June 2018.
  - 8 D. Jimenez. Towards Building an Automated Fact-checking System. *SIGMOD SRC '17: Proceedings of the 2017 ACM International Conference on Management of Data*. Chicago, IL, USA. May 2017.
  - 9 N. Hassan, G. Zhang, F. Arslan, J. Caraballo, D. Jimenez, S. Gawsane, S. Hasan, M. Joseph, A. Kulkarni, A. K. Nayak, V. Sable, C. Li, M. Tremayne. ClaimBuster: The First-ever End-to-end Fact-checking System. *Proceedings of the VLDB*. Munich, Bavaria, Germany. August 2017.
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