

JACOB DEVASIER

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EDUCATION

University of Texas at Arlington

Ph.D. in Computer Science and Engineering

Fall 2019 - Fall 2025

GPA: 3.6/4.0

University of Texas at Arlington

B.S. in Computer Science and Engineering

Fall 2015 - Spring 2019

Major GPA: 3.6/4.0

EXPERIENCE

Toyota Financial Services

Machine Learning Engineer Intern

May - Aug 2024, May - Aug 2023

- Designed and deployed an end-to-end audio transcription pipeline using AWS SageMaker and S3 to process millions of customer support calls, enabling large-scale analysis of customer pain points
- Benchmarked speech-to-text models and visualized cost-performance tradeoffs, identifying solutions with potential to reduce annual costs by millions of dollars
- Developed a web portal using Flask for analysts to interact with deployed machine learning models

Amazon

Applied Scientist Intern

Aug 2023 - Nov 2023

- Trained and evaluated BERT-based transformer model using PyTorch for identifying complementary products from textual descriptions to enable high throughput sponsored product sourcing
- Identified critical biases in training data and leveraged LLM-based data augmentation to mitigate it, resulting in an improvement of **+17%** AUROC on highly imbalanced data with millions of samples

University of Texas at Arlington - IDIR Lab

Research Assistant

November 2018 - Present

- Conducted NLP research on frame-semantic parsing and automated fact checking
- Led 3 research projects resulting in publications in top-tier NLP venues
- Mentored 7 undergraduate and high school students and presented at top-tier NLP conferences 4 times

RESEARCH PROJECTS

ClaimCheck - <https://idir.uta.edu/claimcheck/>

Feb 2025 - Jul 2025

- Explainably fact-checks any factual claim using online evidence with a small reasoning LLM
- Fact-checks claims with **76.4%** accuracy, outperforming the previous-best system by **+5.9%**

ClaimLens - <https://idir.uta.edu/claimlens/>

Jun 2022 - May 2025

- Extracts semantic structure of text to retrieve factual information to enable fact-checking
- Utilizes LLMs to explainably fact-check claims using text-to-SQL on large-scale databases
- Designed prompts for LoRA fine-tuning and zero/few-shot inference using Llama, Qwen, and OpenAI

ClaimBuster - <https://idir.uta.edu/claimbuster/>

Aug 2019 - Present

- Detects fact check-worthy statements to combat misinformation and fake news on social media
- Deployed LSTM, SVM, and BERT-based transformer models as an API for use by collaborators
- Built a user-friendly website to preprocess, score, rank, and visualize check-worthy factual claims

PUBLICATIONS

F - First Author **W** - Workshop

- **[F]** “*ClaimCheck: Real-Time Fact-Checking with Small Language Models*”. Akshith Putta*, **Jacob Devasier***, Chengkai Li. Conference on Empirical Methods in Natural Language Processing (EMNLP), 2025, In review.
- **[F]** “*Can LLMs Extract Frame-Semantic Arguments?*” **Jacob Devasier**, Rishabh Mediratta, Akshith Putta, Chengkai Li. Conference on Empirical Methods in Natural Language Processing (EMNLP), 2025.
- **[F]** “*Task-Oriented Automatic Fact-Checking with Frame-Semantics*”. **Jacob Devasier**, Rishabh Mediratta, Akshith Putta, Chengkai Li. Association for Computational Linguistics (ACL Findings), 2025.
- **[W]** “*ClaimCheck: Automatic Fact-Checking of Textual Claims using Web Evidence*”. Akshith Reddy Putta, **Jacob Devasier**, Chengkai Li. Workshop on Knowledge-Augmented Methods for Natural Language Processing (KnowledgeNLP), 2025.
- **[F]** “*ClaimLens: Automated, Explainable Fact-Checking on Voting Claims Using Frame-Semantics*”. **Jacob Devasier**, Yogesh Gurjar, Chengkai Li. Conference on Empirical Methods in Natural Language Processing: System Demonstrations (EMNLP), 2024.
- **[F]** “*Robust Frame-Semantic Models with Lexical Unit Trees and Negative Samples*”. **Jacob Devasier**, Rishabh Mediratta, Phuong Anh Le, David Huang, Chengkai Li. Association for Computational Linguistics (ACL), 2024.
- “*Gradient-Based Adversarial Training on Transformer Networks for Detecting Check-Worthy Factual Claims*”. Kevin Meng, Damian Jimenez, **Jacob Devasier**, Sai Sandeep Naraparaju, Fatma Arslan, Daniel Obembe, Chengkai Li. ACM Transactions on Intelligent Systems and Technology (TIST), 2024.
- **[W]** “*Granular Analysis of Social Media Users Truthfulness Stances Toward Climate Change Factual Claims*”. Haiqi Zhang, Zhengyuan Zhu, Zeyu Zhang, **Jacob Devasier**, Chengkai Li. Workshop on Natural Language Processing Meets Climate Change (ClimateNLP), 2024.
- **[W]** “*Enabling Automated Fact Checking of Voting Related Claims Using Frame Semantic Parsing and Semantic Search*”. Rishabh Mediratta, **Jacob Devasier**, Chengkai Li. ACM SIGKDD Conference on Knowledge Discovery and Data Mining Undergraduate Consortium (KDD-UC), 2024.

ACADEMIC ACTIVITIES

- Reviewed manuscripts (*assisted) for VLDB 2021*, KDD 2021*, KDD 2022*, SIGMOD 2023*, VLDB 2023*, SIGMOD 2024, ClimateNLP 2024, ACL 2024, ACL ARR 2024 (Oct), ACL ARR 2025 (Feb, May), NAACL 2025 SRW, and EMNLP 2025
- Mentored 3 students for the Computing Research Association’s UR2PhD Summer 2025 program
- Presented posters at ACL 2024, EMNLP 2024, TACCSTER 2024, NAACL 2025, and ACL 2025
- Lead and instructed 4 annual NLP workshops related to fact-checking for UTA’s OurCS@DFW program