

Stephanie Birkelbach

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EDUCATION

2023 – 2027 | **Dual B.S. Degrees: Computer Science and Statistics**
Texas A&M University. Emphasis in Cybersecurity. Minor in Math. GPA: 3.86.

PUBLICATIONS

- P1. **1ST AUTHOR** **SHORT**
SocialPulse: An Open-Source Subreddit Sensemaking Toolkit
Stephanie Birkelbach, Maria Teleki, Nehul Bhatnagar, Peter Carragher, Xiangjue Dong, and James Caverlee
— *Collab. with CMU, Revionics*
SocialLLM @ ICWSM '26 The Workshop on Large Language Models for Social Reasoning and Simulation at the International AAAI Conference on Web and Social Media [Link]
→ *Presented at: IC2S2 Parallel Talk '26*
- P2. **Z-Scores: A Metric for Linguistically Assessing Disfluency Removal**
Maria Teleki, Sai Janjur, Haoran Liu, Oliver Grabner, Ketan Verma, Thomas Docog, Xiangjue Dong, Lingfeng Shi, Cong Wang, **Stephanie Birkelbach**, Jason Kim, Yin Zhang, and James Caverlee
ICASSP '26 IEEE International Conference on Acoustics, Speech and Signal Processing [Link]

PREPRINTS

- R1. **Conversational Speech Reveals Systematic Robustness Failures in LLMs**
Maria Teleki, Sai Janjur, Haoran Liu, Oliver Grabner, Ketan Verma, Thomas Docog, Xiangjue Dong, Lingfeng Shi, Cong Wang, **Stephanie Birkelbach**, Jason Kim, Yin Zhang, Éva Székely, and James Caverlee
— *Collab. with KTH*
In Prep. for ARR The ACL Rolling Review [Link]
- R2. **A Survey on LLMs for Story Generation**
Maria Teleki, Xiangjue Dong, Peter Carragher, Vedangi Bengali, Tian Liu, Haoran Liu, Sai Janjur, Thomas Docog, **Stephanie Birkelbach**, Oliver Grabner, Cong Wang, Ting Liu, Yin Zhang, Frank Shipman, and James Caverlee
In Prep. for TIST ACM Transactions on Intelligent Systems and Technology [Link]

EXPERIENCE

Texas A&M University | Undergraduate Research Assistant | May '25 – Present
– Developed *SocialPulse*, an open-source subreddit sensemaking toolkit integrating topic modeling, sentiment analysis, user activity analysis, and bot detection to support large-scale social media research.
– Conducting research in spoken language processing, disfluency in conversational speech, and robust conversational AI under faculty supervision.
– Evaluating LLMs on their ability to understand spontaneous, disfluent speech compared to written text.
– Advised by *Dr. James Caverlee*.

Rochester Institute of Technology | NSF REU: Trustworthy AI for Social Good | May – July '26
– Analyzed VLM compliance and refusal rates for transformation requests regarding religion and skin tone.
– Tested if transformed images are statistically separable by downstream classifiers and identified which facial

regions drive separability.

- Investigated whether identity-conditioned facial transformations systematically bias outcomes within a simulated hiring pipeline, and evaluated the statistical detectability and significance of these distortions.
- *Research ongoing; manuscript in preparation for peer-reviewed submission.*
- Advised by [Dr. Ashique Khudabukhsh](#).

Pelican Industrial | Computer Engineering Intern | June – August ‘25

- Programmed an ESP32 microcontroller with Arduino IDE to interface with external memory, an OLED display, and navigation buttons.
- Built a user-friendly interface to display pre-stored outputs, automating hardware validation and reducing manual calculations. Improved diagnostic efficiency by enabling employees to quickly identify malfunctioning hardware components.

Pelican Industrial | IT Intern | June – August ‘24, May – August ‘23

- Implemented a disaster recovery solution by replicating the company’s virtual machine hosting internal management software, ensuring business continuity.
- Supported secure remote work by setting up VPNs and remote desktop access for employees.
- Collaborated with IT staff to troubleshoot system issues and strengthen cybersecurity practices.
- Gained hands-on experience configuring backup routers, domain name registration, and digital certificates to enhance network reliability and security.

The Houstonian | Assistant Summer League Coach | May – July ‘23

- Coached swimmers ages 6-16 in all four strokes and organized team events, developing leadership and communication skills.

Forever 21 | Brand Ambassador | June – August ‘22

- Developed customer service and supported daily operations, ensuring efficiency and positive customer experiences in a fast-paced retail setting.

Spring Valley Dolphins | Assistant Summer League Coach | May – July ‘21

- Coached swimmers ages 6-16 in all four strokes and organized team events, developing leadership and communication skills.

SERVICE

Program Committee (Reviewer) for **ICWSM**: Jan ‘26, April ‘26, May ‘26

AWARDS

2023 – 2027 | President’s Endowed Scholarship

2023 – 2027 | Oscar Nelson Opportunity Award

2023 – 2027 | Dennis W. Holder Scholarship

Spring 2026 | Dean’s Honor Roll

Fall 2025 | Distinguished Student

Fall 2024 | Dean’s Honor Roll

2023 Saint Pius X High School Valedictorian

2023 National Merit Finalist

CERTIFICATIONS

Issued 2025 – Expires 2028 | [CompTIA Security+](#)