

## POLI NEMKOVA

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### RESEARCH PROFILE

AI researcher specializing in multilingual natural language processing, bias detection, and socially responsible AI. My work bridges computer science, computational social science, and international policy, with applications in conflict forecasting, misinformation detection, and ethical large language model (LLM) deployment. Experienced in leading interdisciplinary teams, building datasets in low-resource languages, and publishing at top AI venues (AAAI, IJCAI).

### EDUCATION

*University of North Texas, Denton, TX, USA*

**Ph.D. Candidate** in Computer Science with focus on Artificial Intelligence (AI)

2020 - Expected: Spring 2026 | GPA: 4.0/4.0

Dissertation focus: Agentic and Multilingual Neural Architectures for Forecasting and Decision-Support in Unstructured Text Streams (under supervision of Dr. Rodney D. Nielsen and Dr. Mark V. Albert)

Leadership role: AI for Social Good Research Group lead and founder of Lab 42 (supervising around 20 undergraduate and master level students in NLP and ML research projects)

**M.S. Computer Science** with focus on Artificial Intelligence (AI)

2020 - 2022 | GPA: 4.0/4.0

Relevant coursework: Natural Language Processing (NLP), Computational Linguistics, Machine Learning, Deep Learning, Data Mining, Big Data & Data Science, Data Mining, Feature Engineering with focus on Computer Vision, Software Development for Artificial Intelligence, Analysis of Algorithms, Software Development

Leadership Role: Founder of UNT Startup Club.

*Belarus State University, Minsk, Belarus*

**B.S. Economics**

2009 - 2015 | GPA: 8/10

Relevant coursework: Data Economics, Statistics, Management Strategies, Database Management, Data Analysis, Operations Research, Statistical Data Analysis, Statistical Inference, Policy

Leadership Role: Vice President of Student Council

### PROFESSIONAL EXPERIENCE

*University of Texas at Dallas, Dallas, TX, USA*

**Adjunct Faculty**, Department of Computer Science | Aug 2025 – now

I teach senior-level Computer Science capstone courses with a focus on AI, NLP, and Machine Learning.

*United Nations, UNDP, New York, NY, USA*

**Data Science Fellow** | Aug 2023 – now

I work on Conflict Prediction Research at [the Risk Anticipation Hub within UNDP](#). We develop a machine learning system for early prediction of possible civil and military unrest in the Horns of Africa region. Supervisor: Sun-joo Lee. Specifically I do the following:

- Designing and conducting advanced experiments leveraging Natural Language Processing (NLP) techniques to develop predictive models for conflict analysis.
- Analyzing large-scale textual data from diverse sources to identify patterns and trends related to conflict dynamics.
- Implementing machine learning algorithms and fine-tuned NLP models to enhance the accuracy of conflict prediction.
- Evaluating the performance of prediction models through rigorous validation and optimization processes.
- Integrating domain-specific knowledge of political and social contexts to improve the interpretability and applicability of the models.
- Presenting findings and insights to stakeholders

### ***AI.Fashion (Y-Combinator Startup), Los Angeles, CA***

**AI Product Manager and Researcher | Aug 2023 – January 2025**

[AI.Fashion](#) is a successful early stage startup from Y-combinator that [recently raised 3.6 mln](#) in fundings. AI.Fashion is focused on transforming the future of fashion with cutting edge AI technologies. We work with the largest fashion brands all over the world. My role is to manage international teams to ensure we develop the best technical product. Specifically, I performed the following:

- Contributed to the development of an AI product at a Y Combinator-backed startup.
- Managed cross-functional international teams to drive project success.
- Created roadmaps and planned feature development to align with company goals.
- Collaborated with engineering teams to define product requirements, ensuring alignment with business goals and technical feasibility
- Worked closely with UX/UI designers to create intuitive user interfaces that enhanced overall user experience
- Identified opportunities for product enhancements or feature updates based on customer feedback and competitive landscape analysis
- Collaborated with sales teams to develop effective sales enablement materials including presentations, demos, case studies, and FAQs

Worked directly with Daniel Citron and John S. Chirikjian.

### **University of North Texas, Denton, TX**

**Teaching Assistant & Fellow | Aug 2020 – now**

Teaching labs on C++/C for undergraduate students (CSCE1030)

Fall 2022: co-taught a graduate course: Introduction to Artificial Intelligence (CSCE5210)

In Spring 2023 I co-teach a graduate course: Software Development for AI (CSCE 5214)

Spring 2024: I co-teach a graduate course: Big Data and Data Science for 83 students (CSCE 5200)

Summer 2025: I co-teach Machine Learning class for 40 master level students (CSCE5215);

Lecturing AI Ethics section.

**Research Assistant | Sep 2019 – Aug 2024**

Working on ML solutions at Human/Machine Intelligence and Language Technologies (HiLT) Lab with Dr. Rodney Nielsen. Our project is in the domain of computational linguistics and NLP.

## RESEARCH

Presented at top conferences (AAAI, IJCAI). Google Scholar:  
[https://scholar.google.ru/citations?user=j\\_ttzuAAAAAJ&hl=en](https://scholar.google.ru/citations?user=j_ttzuAAAAAJ&hl=en)

Selected Publications:

**Cross-Lingual Stability and Bias in Instruction-Tuned Language Models for Humanitarian NLP**

**P Nemkova**, A Adhikari, M Pearson, VKrishna Sadu, AV Mark

Under submission

**Agentic Multilingual NLP for Conflict Forecasting from Open-Source Text Streams**

**PA Nemkova**, MV Albert

WiML @ NeurIPS 2025

**Comparing LLM Text Annotation Skills: A Study on Human Rights Violations in Social Media Data**

**PA Nemkova**, S Ubani, MV Albert

AAAI 2025

**NLP for Social Good: A Survey of Challenges, Opportunities, and Responsible Deployment.**

A. Karamolegkou, A. Borah, E. Cho, S. R. Choudhury, M. Galletti, R. Ghosh, P. Gupta, O. Ignat, P. Kargupta, N. Kotonya, H. Lamba, S.-J. Lee, A. Mangla, I. Mondal, D. Nazarova, **P. Nemkova**, D. Pisarevskaya, N. Rizwan, N. Sabri, D. Stammbach, A. Steinberg, D. Tomás, S. R. Wilson, B. Yi, J. H. Zhu, A. Zubiaga, A. Søgaard, A. Fraser, Z. Jin, R. Mihalcea, J. R. Tetreault, D. Dementieva, 2025.

**Detecting Human Rights Violations on Social Media Using Machine Learning**

**PA Nemkova**, S Polat, S Ubani, K Nguen, R Nielsen

AAAI 2025

**Do Large Language Models Know Conflict? Investigating Parametric vs. Non-Parametric Knowledge of LLMs for Conflict Forecasting**

**PA Nemkova**, SC Lingareddy, S Ray Choudhury, MV Albert

2025

**Towards Automated Situation Awareness: A RAG-Based Framework for Peacebuilding Reports.**

**Nemkova, P.A., Polat, S.O., Jahan, R.I., Choudhury, S.R., Lee, S., Sarkar, S., & Albert, M.V. (2025).**

2025 Under submission

**Synthetic Adaptive Guided Embeddings (SAGE): A Novel Knowledge Distillation Method**

SO Polat, **PA Nemkova**, MV Albert

2025 Under submission

**Improved Bitcoin Price Prediction based on COVID-19 data**

**P Nemkova**, R Moreira

IJCAI-PRICAI 2021

## CONFERENCE REVIEWING

- Program Committee: AIES 2025
- Reviewer: ICECET 2025, ICLR 2025, ACL ARR 2025, EMNLP 2023, ACM 2021

## GRANTS & ENGAGEMENT

- **Aug 2025** — *Digital Citizen Contribution Program*, Department of Canadian Heritage, Canada  
Project: *Mapping and Mitigating Misinformation Through LLMs in Diasporic & Indigenous Communities (M<sup>3</sup> LLM Project)*  
Collaboration: Conflict and Resilience Research Institute (CRRIC)  
Status: Under review
- **May 2025** — *Routledge (Taylor & Francis Group)*  
Book contract signed  
Collaboration: Conflict and Resilience Research Institute (CRRIC)
- **Nov 2023** — *Digital Citizen Contribution Program*, Department of Canadian Heritage, Canada  
Project: *Truth Guard: Building Resilience Against Mis/Disinformation and Transnational Repression for Canadians*  
Collaboration: Conflict and Resilience Research Institute (CRRIC)

## TEACHING

UT Dallas: Fall 2025 – Taught a capstone class for 60 seniors (CS4485)  
 UNT: Fall 2025 – Co-taught a graduate course: Big Data and Data Science for 50 students (CSCE 5200)  
 UNT: Summer 2025 – Co-taught a graduate course: Machine Learning for 40 master's students (CSCE 5215); lectured on AI Ethics section  
 UNT: Spring 2024 – Co-taught a graduate course: Big Data and Data Science for 83 students (CSCE 5200)  
 UNT: Spring 2023 – Co-taught a graduate course: Software Development for AI (CSCE 5214)  
 UNT: Fall 2022 – Co-taught a graduate course: Introduction to Artificial Intelligence (CSCE 5210)  
 UNT: 2020–2022 – Taught labs on C/C++ for almost 90 undergraduate students (CSCE 1030)

## MENTORING

Leading an unofficial research group (Lab42) for AI/NLP for Social Good with about 20 undergraduate and master students.

## INVITED PUBLIC TALKS & OTHER

*October 2025*  
*SMU, Department of Mathematics, Dallas, TX*

*October 2025*  
 Lecture on AI applications in health  
 Texas Tech University Health Sciences Center, Dallas, TX

*August 2025*  
 AI for Social Good workshop - invited host and lead  
 San Paolo, Brazil

*May 2025*

Signed a book agreement with a major publisher. More details coming soon!

February, 2025

AAAI 2025 - [AI for Social Impact: Bridging Innovations in Finance, Social Media, and Crime Prevention](#)  
Gave two talks.

*January, 2023*

Towards Peace through AI Research  
[Conflict And Resilience Research Institute Canada](#) (CRRIC)  
University of Winnipeg, Winnipeg, Canada

*October, 2022*

*Algorithms and AI as an artistic protocol* [[link](#)]

*Performance*

The Onstead Institute, Department of Art Education present: Education as Experimentation 3 Symposium  
University of North Texas, Department of Art Education, USA

*August, 2022*

AI in Media Warfare [[video](#)]  
[Conflict And Resilience Research Institute Canada](#) (CRRIC)  
University of Winnipeg, Winnipeg, Canada

*January, 2022*

Guest Speaker on Data Science & AI Talk [[video](#)]  
Data Science in Academia

## AWARDS

*January, 2021*

DAAD Rise Professional Scholarship, Germany

*September, 2020; 2021*

Grace Hopper Celebration - Scholarship for Attending