Nevena Gligić

PhD Candidate, Statistics — The University of Texas at Austin

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EDUCATION

The University of Texas at Austin — *PhD Statistics* (Advisor: Dr. Arya Farahi) Aug 2022 – May 2027
University College London (UCL) — *MSc Computational Finance*, First Class Sep 2020 – Sep 2021
The University of Manchester — *BSc (Hons.) Mathematics*, Upper Second (2:1) Sep 2017 – May 2020

RESEARCH EXPERIENCE

Graduate Research Assistant — UT Austin, NSF–Simons CosmicAI Institute May 2024 – Present

Density-Informed Pseudo-Counts for Calibrated Evidential Deep Learning
P. Carlotti*, **N. Gligić***, A. Farahi. *STAI-X, 2026.* ***Best Paper Award.*** **equal contribution*

- *RQ*: How to make an AI system more reliable under distributional shifts?
- *Approach*: Introduced DIP-EDL, an EDL parametrization that decouples class prediction from uncertainty quantification by separately estimating the conditional label distribution and the marginal covariate density.

Robust-by-Design Distributional Learning from Contaminated Samples
N. Gligić, A. Farahi. *Under review, 2026.*

- *RQ*: How to achieve distributional objectives with contaminated data?
- *Approach*: Proposed CC–MMD (contamination-corrected maximum mean discrepancy), a design-based estimator that combines noisy proxy scores with audited residual corrections to recover the oracle MMD that would have been measured on clean data.

BPSD: Unsupervised Bayesian Probabilistic Signal Detection in Noisy Environments
N. Gligić, A. Farahi. *Ongoing.*

- *RQ*: How to detect signal in a low SNR regime without labels or assumptions on the signal distribution?
- *Approach*: Built an unsupervised framework that explicitly models the data and noise distributions with normalizing flows and uses Bayesian inference to probabilistically detect signal in noise.

AI-Driven Utility Monitoring and Anomaly Detection for City-Operated Buildings
N. Gligić, V. Burugu, A. Farahi, M. Kammer-Kerwick. *Ongoing.*

- *RQ*: How to detect extreme energy consumption in city-operated buildings in real time?
- *Approach*: Built a forecasting and anomaly detection pipeline using a foundation model, and an interactive dashboard that links flagged events to estimated cost and CO_2 impact. Collaboration with the City of Austin.

Research Intern — Santander Bank UK, via UCL Jun 2021 – Sep 2021

Operational Risk Bayes Neural Network *(Master's thesis)*

- *RQ*: What change in operational losses values caused a change in operational risk measures?
- *Approach*: Built and benchmarked neural networks, naive Bayes classifier, and multinomial logistic regression models to identify drivers of operational risk. Presented at the Santander University Engagement Program 2021.

AWARDS & FELLOWSHIPS

- **Best Paper Award**, STAI-X (2026)
- **Keller Award**, UT Austin (2026) - for leadership skills, service to the department, and supporting other students
- **College of Natural Sciences PhD Fellowship**, UT Austin (2022–2027)

LEADERSHIP & INITIATIVES

- **Co-founder – Directed Reading Program in Statistics and Data Sciences (DRP-SDS), UT Austin:** Co-founded the department's first DRP, pairing undergraduates with PhD mentors for independent semester-long research projects.
- **Referee:** AAAI.
- **SDS Social Committee & Recruiting:** engaged with faculty candidates and admitted students.

TECHNICAL SKILLS

- **Programming:** Python (primary), PyTorch, R, SLURM, MATLAB, LaTeX, Git
- **Methods:** Normalizing flows (MAF, IAF), VAE, GAN, evidential deep learning, transformers, CNN, GMM, autoencoders, time-series foundation models (Chronos Bolt), MLP, ARIMA