

Ehsan Lari

Trondheim – Norway

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Homepage

Profile

- PhD researcher in statistical machine learning and signal processing from NTNU, with expertise in developing efficient, secure, and scalable computational methods.
- Developed and optimized machine learning algorithms with a focus on efficiency, privacy, and security, aligning with cloud optimization and governance best practices.
- Designed and implemented scalable computational frameworks for large-scale data processing, demonstrating expertise in automation, containerization, and parallel computing.
- Applied statistical signal processing and Bayesian methods to analyze system performance, contributing to data-driven decision-making in cloud environments.
- Adaptable problem-solver with a strong research background, eager to apply analytical skills and cloud technologies to optimize infrastructure and enhance system performance.

Professional Experience

Norwegian University of Science and Technology (NTNU)
Research and Teaching Assistant — Department of Electronic Systems

Trondheim, Norway
Jan. 2020 — Dec. 2024

- Conducted research in statistical machine learning and signal processing, developing efficient and secure algorithms for large-scale data analysis.
- Designed and implemented computational frameworks for machine learning applications, optimizing performance for high-dimensional datasets.
- Published 7 peer-reviewed papers, contributing novel insights to the field and collaborating with interdisciplinary teams.
- Supervised and mentored students in coursework and research projects, guiding them in machine learning, data analysis, and algorithm design.

Norwegian University of Science and Technology (NTNU)
Assistant Professor — Department of Electronic Systems

Trondheim, Norway
Aug. 2022 — Dec. 2022

- Delivered lectures and assisted in teaching graduate-level courses, simplifying complex concepts for diverse audiences.
- Supervised and mentored students in coursework and research projects.

Education

Norwegian University of Science and Technology (NTNU)
Doctor of Philosophy (PhD) — Signal Processing
Department of Electronic Systems (IES)

Trondheim, Norway
Jan. 2020 — Mar. 2024

PhD Project

Title: *Distributed Learning with Enhanced Efficiency, Robustness and Privacy*

Supervisors: Prof. Stefan Werner (NTNU, Norway), Dr. Reza Arablouei (CSIRO, Australia)

Skills

Programming Languages: Python [NumPy, Pandas, Scikit-Learn, PyTorch], SQL (beginner)

Softwares: MATLAB, Microsoft Office

Operating Systems: Windows, Linux (beginner)

Soft Skills: Problem-Solving, Critical Thinking, Communication, Teamwork, Adaptability, Time Management, Leadership

Project Deliverables (PhD Publications)

Journals.....

- E. Lari, R. Arablouei, V. C. Gogineni, S. Werner, "Noise-Robust and Resource-Efficient ADMM-based Federated Learning for WLS Regression", to appear in IEEE Open Journal of Signal Processing.
- E. Lari, R. Arablouei, V. C. Gogineni, S. Werner, "Resilience in Online Federated Learning: Mitigating Model-Poisoning Attacks via Partial Sharing", to appear in IEEE Transactions on Signal and Information Processing over Networks.

Conferences.....

- E. Lari, R. Arablouei, and S. Werner, "Privacy-Preserving Distributed Nonnegative Matrix Factorization," in Proc. IEEE EUSIPCO 2024, Lyon, France, Aug. 2024.
- E. Lari, R. Arablouei, N. K. D. Venkategowda, and S. Werner, "Distributed Maximum Consensus over Noisy Links," in Proc. IEEE EUSIPCO 2024, Lyon, France, Aug. 2024.
- E. Lari, V. C. Gogineni, R. Arablouei, and S. Werner, "On the Resilience of Online Federated Learning to Model Poisoning Attacks through Partial Sharing," in Proc. IEEE ICASSP, Seoul, South Korea, Apr. 2024.
- E. Lari, V. C. Gogineni, R. Arablouei, and S. Werner, "Continual Local Updates for Federated Learning with Enhanced Robustness to Link Noise," in Proc. IEEE APSIPA, Taipei, Taiwan, Nov. 2023.
- E. Lari, V. C. Gogineni, R. Arablouei, and S. Werner, "Resource-Efficient Federated Learning Robust to Communication Errors," in Proc. IEEE SSP Workshop, Hanoi, Vietnam, July 2023.

Languages

Norwegian, Bokmål: Limited working proficiency

English: Full professional proficiency

French: Elementary proficiency

Interests and Hobbies

- Hiking and Camping in Nature
- Watching Movies and Series (My all-time top TV show: The Sopranos)
- Planning Events and Trips for Myself and Others

References

Can be provided upon request.