Ehsan Lari

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Homepage

Profile

- PhD in statistical machine learning and signal processing from NTNU, with a strong foundation in data analysis, modeling, and system optimization.
- Developed and optimized machine learning algorithms with a focus on efficiency, privacy, and scalability, with experience relevant to edge computing and embedded AI systems.
- Built scalable computational pipelines for large-scale data processing using automation, containerization, and parallel computing, well-suited for real-time sensor-based applications.
- Applied Bayesian methods and statistical signal processing to evaluate system performance and support data-driven decision-making in complex environments.
- Fast learner with hands-on exposure to computer vision through MIT online coursework and lab work, motivated to deepen expertise and apply it to impactful real-world challenges such as aquaculture sustainability.

Professional Experience

Norwegian University of Science and Technology (NTNU) **Trondheim, Norway**
PhD Research and Teaching Assistant — Department of Electronic Systems *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.
- Delivered a well-structured presentation at a scientific conference, clearly communicating complex findings and responding to expert questions with confidence
- Designed professional visual materials and tailored the message for both technical and non-technical audiences, demonstrating strong communication skills
- 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) **Trondheim, Norway**
Assistant Professor — Department of Electronic Systems *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) **Trondheim, Norway**
Doctor of Philosophy (PhD) — Department of Electronic Systems (IES) *Jan. 2020 – Mar. 2024*

Skills

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

Softwares: MATLAB, Microsoft Office

Operating Systems: Windows

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

Project Deliverables (Selected PhD Publications)

Journals

- E. Lari, R. Arablouei, V. C. Gogineni, S. Werner, "Noise-Robust and Resource-Efficient ADMM-based Federated Learning for WLS Regression", 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", 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.

Languages

Norwegian, Bokmål: Limited working proficiency

English: Full professional 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.