



Delft University of Technology

Unmasking the Unexpected Towards Reliable Time Series Anomaly Detection

Ghorbani, R.

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Propositions

accompanying the dissertation

Unmasking the Unexpected Towards Reliable Time Series Anomaly Detection

by

Ramin GHORBANI

- 🎓 1. Evaluating time series anomaly detection models requires expert input because evaluation criteria are subjective and context-dependent, making standardized metrics inadequate.
- 🎓 2. Insisting on explainability in medical machine learning models limits advancements in the field.
- 🎓 3. The lack of domain-specific benchmark datasets in time series anomaly detection poses a greater obstacle to the field than algorithmic innovation.
- 🎓 4. PPG biometrics can become the 'next fingerprint' in personal authentication.
- 5. Unregulated reliance on AI-generated content in education creates an illusion of competence, hindering students' critical thinking and essential cognitive skill development.
- 6. Digitalization magnifies social inequalities.
- 7. The perceived need for top-tier conference publications, especially for entering competitive industries, fosters a research culture that emphasizes short-term recognition over long-term innovation.
- 8. Hybrid working arrangements are detrimental for early-stage PhD students.
- 9. When experts become storytellers, technical jargon transforms into bridges of understanding, sparking curiosity and fueling the flames of critical thinking with every explanation.
- 10. The current focus on AI-driven solutions will lead to a loss of traditional signal processing knowledge within a generation of researchers.

🎓 Pertains to this dissertation.

These propositions are regarded as opposable and defensible, and have been approved as such by the promoters Prof. dr. ir. M.J.T Reinders and Dr. D.M.J. Tax.