Ibrahim A. Fares

PhD in Machine Learning & Cybersecurity

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Portfolio: https://ifares-csi.github.io/
Google Scholar: https://scholar.google.com/citations?user=G33DEsgAAAAJ

RESEARCH EXPERIENCE

- Machine Learning & Deep Learning
- Natural Language Processing (NLP)
- Large Language Models (LLMs)
- LLM Fine-tuning & Prompt Engineering
- Generative AI & Multimodal Models
- Optimization Algorithms
- Cybersecurity & Intrusion Detection
- Internet of Things (IoT)
- Federated Learning
- Transformer Architectures

Education

PhD in Optimizing ML for Cybersecurity
Title: Cyber Security Threats Detection in Internet of Things Based on Optimization Algorithms
Zagazig University, Egypt (2021-2024)

Master's in Using Optimization algorithms for IoT application
Title: Bio-Inspired Algorithms for Optimizing Dynamic Noisy Environment in Smart Cities
Zagazig University, Egypt (2018-2020)

BSc in Math. & Computer Science
Zagazig University, Egypt (2012-2016)

ACADEMIC EXPERIENCE

Lecturer
Zagazig University (2024-Present)

Assistant Lecturer
Zagazig University (2021-2024)

Demonstrator
Zagazig University (2016-2021)

Teaching Experience

I have been teaching computer science subjects for 10 years, including:

AI & Machine Learning:	Programming Languages:	Computer Science Fundamentals:
• AI • Machine Learning • Deep Learning • Natural Language Processing	• Python • C++ • MATLAB • Web Programming	• Data Structures • Algorithms • Compiler Design • Data Mining • Computer Networks

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PUBLICATIONS

The following papers represent work where I was the primary researcher and conducted the majority of the research independently.

2025

1. **Ibrahim A. Fares** and M. Abd Elaziz, *"Explainable TabNet Transformer-Based on Google Vizier Optimizer for Anomaly Intrusion Detection System,"* Knowledge-Based Systems (Q1), May 2025, vol. 316, 113351, doi: 10.1016/j.knosys.2025.113351
2. **Ibrahim A. Fares**, M. Abd Elaziz, A. O. Aseeri, H. S. Zied, and A. G. Abdellatif, *" TFKAN: Transformer Based on Kolmogorov–Arnold Networks for Intrusion Detection in IoT environment, "* Egyptian Informatics Journal (Q1), June 2025, Vol 30, 100666, doi: 10.1016/j.eij.2025.100666.
3. **Ibrahim A. Fares**, A. G. Abdellatif, M. Abd Elaziz, M. Shrahili, A. Elmahallawy, R. M. Sohaib, M. A. Shawky, and S. T. Shah, *"Deep Transfer Learning based on Hybrid Swin Transformers with LSTM for Intrusion Detection Systems in IoT Environment,"* IEEE Open Journal of the Communications Society (Q1), 2025, Accepted.
4. **Ibrahim A. Fares**, M. Abd Elaziz, A. Dahou, and M. Shrahili, *"Federated Learning Framework for IoT Intrusion Detection Using Tab Transformer and Nature-Inspired Hyper-Parameter Optimization,"* Frontiers in Big Data (Q2), 2025, Accepted.
5. **Ibrahim A. Fares** et al., *"Diagnosing Autism Spectrum Disorder Based on Modified Deep Learning and Feature Selection Technique,"* Frontiers in Artificial Intelligence (Q2), Under Review.

2024

1. M. Abd Elaziz, **Ibrahim A. Fares** and A. O. Aseeri, *"CKAN: Convolutional Kolmogorov–Arnold Networks for IoT Intrusion Detection,"* IEEE Access (Q2), vol. 12, pp. 134837-134851, 2024, doi: 10.1109/ACCESS.2024.3462297.

2. **Ibrahim A. Fares** and M. Abd Elaziz, *"FT Transformer for Intrusion Detection System in IoT,"* Bulletin of Faculty of Science, Zagazig University, 2023, Accepted.

2023

1. **Ibrahim A. Fares**, Aboul Ella Hassanien, Rizk M. Rizk-Allah, Roushdy Mohamed Farouk and Hassan Mostafa Abo-donia, *"Solving Capacitated Vehicle Routing Problem with Route Optimisation Based on Equilibrium Optimiser Algorithm,"* International Journal of Computing and Mathematics, Jan 2023.

2020

1. **Ibrahim A. Fares**, Rizk M. Rizk-Allah, Aboul Ella Hassanien & Snasel Vaclav, *"Multiple Cyclic Swarming Optimization for Uni- and Multi-modal Functions,"* International Conference on Innovative Computing and Communications, Jan 2020.

Technical Skills

AI & ML: Machine Learning, Deep Learning, NLP, Transformers, GenAI

Programming: Python, C++, Java, MATLAB

Data: SQL, NoSQL, Database Management

Web Development: HTML, CSS, JavaScript, DevOps

Specializations: Optimization Algorithms, Cybersecurity, IoT

References

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Prof. Dr. Mohamed Abdelrahim
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