

Ibrahim A. Fares

PhD in Machine Learning & Cybersecurity

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Location: Zagazig, Egypt

Portfolio: <https://ifares.tiiny.site/>

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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:
<ul style="list-style-type: none">• AI• Machine Learning• Deep Learning• Natural Language Processing	<ul style="list-style-type: none">• Python• C++• MATLAB• Web Programming	<ul style="list-style-type: none">• Data Structures• Algorithms• Compiler Design• Data Mining• Computer Networks

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), 2025, 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), 2025.
3. **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.
4. **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.
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), 2024, 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

Prof. Dr. Mohamed Abd Elaziz

(PhD supervisor)

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Prof. Dr. A.M. Elsawah

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Prof. Dr. Mohamed Abdelrahim

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