




# Adel ElZemity

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## EDUCATION

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<b>Ph.D. in Computer Science</b> <i>University of Kent</i> Research focus: Internet of Things (IoT) Security with Machine Learning (ML)	Sep 2023 – present Canterbury, UK
<b>Computer Engineering - Exchange Semester (Global UGRAD)</b> <i>Fayetteville State University</i>  GPA: 4.00/4.00   Honors: President's List   Full-Merit scholarship	Aug 2021 – Dec 2021 Fayetteville, NC, USA
<b>Computer Engineering - Exchange Semester (Erasmus+)</b> <i>Riga Technical University</i>  GPA: 4.00/4.00   Honors: President's List   Full-Merit scholarship	Feb 2021 – Jul 2021 Riga, Latvia
<b>Bachelor's of Science in Computer Engineering</b> <i>Nile University</i>  GPA: 3.9/4.0   Honors: President's List, Dean's List   Full Scholarship	2018 – 2023 Giza, Egypt

## PROFESSIONAL EXPERIENCE

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<b>Cybersecurity Researcher</b> <ul style="list-style-type: none"><li>Led the development of anomaly detection pipeline using ML to detect ransomware attacks in IoT.</li><li>Created real and simulated testbeds with Thread Protocol and Contiki-NG to analyse network traffic and perform deep packet inspection.</li><li>This work is part of the "Countering HARms caused by Ransomware on the Internet of Things (CHARIOT )" project funded by EPSRC in the UK.</li></ul>	Sep 2023 – present Canterbury, UK
<b>Machine Learning Engineer</b> <i>National Cancer Research Center</i> <ul style="list-style-type: none"><li>Tested and optimised supervised ML models to detect metal binding sites in proteomes under the supervision of Dr. Michael Tress and Dr. Fernando Pozo.</li><li>Participated in the UniProt Machine Learning challenge 2022 by creating a python pipeline for exploring, cleaning, and filtering datasets to improve accuracy and efficiency.</li></ul>	Jan 2022 – May 2023 Madrid, Spain
<b>Software Engineer</b> <i>Intelligent Systems Lab (ISL)</i>  <ul style="list-style-type: none"><li>Applied expertise in deep learning to design and implement an architecture that effectively segmented the live feed of the robot's ZED Camera, improving the efficiency of object detection on the moon by 2%.</li><li>Configured 24 Linux-based robots using RaspberryPi and Jetson Nano using (Robot Operating System) ROS and Python.</li></ul>	Aug 2021 – Jan 2022 Fayetteville, NC, USA

## RELEVANT PUBLICATIONS

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**Privacy Threats and Countermeasures in Federated Learning for Internet of Things: A Systematic Review**  
**A. ElZemity**, B. Arief, paper is accepted for publication at the International Workshop on Emerging Technology in IoT, held in conjunction with the 2024 IEEE International Conference on Internet of Things (iThings-2024), 19-22 August 2024.

**A Transformer-Based Deep Learning Architecture for Accurate Intracranial Hemorrhage Detection and Classification**  
**ElZemity, A.**, et al. 2023 International Conference on Innovation and Intelligence for Informatics, Computing, and Technologies (3ICT). IEEE, 2023.

**A Comparative Analysis of Time Series Transformers and Alternative Deep Learning Models for SSVEP Classification**   
Ali, H., **ElZemity, A.**, Oghostinos, A. E., & Selim, S. (2023, November). In International Conference on Model and Data Engineering (pp. 3-16). Cham: Springer Nature Switzerland.

## **Wastewater Treatment Model with Smart Irrigation Utilizing PID Control** [↗](#)

A. ELZemity et al. 2020 2nd Novel Intelligent and Leading Emerging Sciences Conference (NILES)pp. 374-379, doi: 10.1109/NILES50944.2020.9257882

## **Interfacial Modification of Perovskite Solar Cell Using ZnO Electron Injection Layer with PDMS as Antireflective Coating** [↗](#)

M. K. Othman et al. 2019 Novel Intelligent and Leading Emerging Sciences Conference (NILES) pp. 209-213, doi: 10.1109/NILES.2019.8909336.

## **SKILLS**

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### **Technical**

- Network architecture & security | IoT/edge computing | TCP/IP, VLANs, routing, switching, VPNs
- Cloud infrastructure (AWS) | Firewalls | Intrusion detection/prevention | Access control systems
- Network monitoring (Wireshark, SNMP) | Industrial control networks | Cybersecurity compliance
- Hardware firmware updates | IP address schemas | VLAN configuration | VPC & site-to-site VPNs
- Troubleshooting network connectivity | Data usage analysis | Network performance optimization

### **Soft**

- Problem-solving & critical thinking | Excellent communication | Strong interpersonal abilities
- Independent working & self-motivation | Adaptability to fast-paced environments | Time management
- Technical documentation & writing | Cross-functional collaboration | Customer support & interaction
- Risk assessment & safety awareness | Project management | Attention to detail | Analytical thinking
- Continuous learning & keeping up with industry trends | Presentation skills | Team leadership