Tameem Bakr

Abu Dhabi - UAE | +(971) 502726425 | tameem.alaa@gmail.com | Google Scholar | LinkedIn | Github | Website

EDUCATION

Mohamed bin Zayed University of Artificial Intelligence, CGPA: 3.77   Abu Dhabi, UAE
Master of Science in Machine Learning   *Aug. 2024 - May 2026*

Egypt-Japan University of Science and Technology, CGPA: 3.55   Alexandria, Egypt
Bachelor of Science in Computer Engineering   *Sep. 2018 - Mar. 2024*

EXPERIENCE

Machine Learning Research Master Student   Aug. 2024 – Current
Mohamed bin Zayed University of Artificial Intelligence   *Abu Dhabi, UAE*
- Researching various trustworthy machine learning topics, supervised by *Dr.Nils Lukas*.
- Developing attacks, defenses, and detection methods for content and model watermarking.

Research Intern   Jul. 2025 – Current
CISPA Helmholtz Center for Information Security   *Saarland, Germany*
- Conducting research at SprintML Lab, supervised by *Dr. Adam Dziedzic* and *Dr. Franziska Boenisch*.
- Researching and implementing watermarking methods for image auto-regressive models.

AI/ML Engineer   Feb. 2024 – May 2024
Smartera 3S Solutions and Systems   *Alexandria, Egypt*
- Participated in on-site requirements analysis in Ahli Bank Oman in a project that involved 40 use cases and 100 data analytics dashboards.
- Coordinated the data acquisition with the Data Engineering Team and the data analytics dashboard creation with the Power BI Team.
- Developed multiple use cases such as loan application approval, credit risk prediction, and churn prediction utilizing tree-based models such as XGBoost, LightGBM, and Random Forest and hyperparameter optimization techniques such as Bayesian Optimization.

Tech Stack: Python, Scikit-learn, Pandas, Seaborn, Matplotlib, FastAPI.

Software Engineering Intern   Jan. 2024 – Feb. 2024
GreenMEA   *Cairo, Egypt*
- Fixed bugs and improved code quality in GreenMEA flagship product ***Smart Safe and Sound***, an AI software that enhances workplace safety by monitoring personal protective equipment (PPE) compliance.
- Worked on integrating and testing the machine learning models into a web application using Flask web framework.
- Shadowed the Machine Learning Team, gaining insights into Computer Vision state-of-the-art models and libraries such as YoloV8 and Python Face Recognition Library.

Tech Stack: Python, Flask, HTML5, CSS3, Javascript, MongoDB.

Data Science Intern   Aug. 2023 – Sep. 2023
Banque Misr   *Cairo, Egypt*
- Shadowed the data science team, gaining insights into big data workflows and industry tools.
- Spearheaded a project to optimize the bank ATMs filling routes around Egypt and to recommend the nearest ATM for the user based on GPS info and required service.
  * Scrapped the data from the bank website.
  * Clustered the ATMs using K-means and K-medoids and optimized the routes using Genetic Algorithms.
- Developed multiple use cases such as credit card fraud detection and cross-selling.

Tech Stack: Python, Scikit-learn, Pandas, Seaborn, Matplotlib, Beautiful Soup, Power BI.

Computer Engineering Intern   Jul. 2023 – Aug. 2023
Al Ezz Dekheila Steel Co.   *Alexandria, Egypt*
- Shadowed different sections of the IT department, including cyber security, SWE, and SRE.
- Explored The tech stack used, including Spring Boot and ReactJs.

Tech Stack: Java, PHP, Spring boot, ReactJS.

Machine Learning Research Intern   Dec. 2021 – Apr. 2022

Egypt-Japan University of Science and Technology   *Alexandria, Egypt*
- Researched optimizing machine learning models for COVID-19 detection.
- Managed to achieve state-of-the-art performance while requiring less computational resources.

Tech Stack: Python, PyTorch, TensorFlow, MATLAB, Kymatio.

PUBLICATIONS

- A. Sharshar, Y. Ashraf, **T. Bakr**, S. Hassan, H. Elgendy, M. Yaqub, and M. Guizani. "Not Only Grey Matter: OmniBrain for Robust Multimodal Classification of Alzheimer's Disease." " *Computer Vision for Automated Medical Diagnosis (CVAMD) Workshop at International Conference on Computer Vision (ICCV) 2025.* (Accepted)

- F. Shamshad, **T. Bakr**, Y. Shaaban, N. Hussein, K. Nandakumar, and N. Lukas, "**First Place** – NeurIPS 2024 Invisible Watermark Removal Challenge " *Presented at the ICLR 2025 Workshop on Generative AI Watermarking (WMARK)*

- A. Hussein*, A. Elsetohy*, S. Hadhoud*, **T. Bakr***, Y. Rohaim*, and B. AlKhamissi, "Khattat: Enhancing Readability and Concept Representation of Semantic Typography," *European Conference on Computer Vision (ECCV) 2024 Workshops, LNCS 15627*, Springer, 2025. doi:10.1007/978-3-031-92808-6_18

- **T. Bakr**, A. Abdullatif, K. Elzeky, M. Elsayed, and R. Zewail, "Cross-Lingual Transfer Learning for Arabic Signature Verification: Dataset and Baseline Evaluation," *Proceedings of the 6th International Conference on Imaging, Vision and Pattern Recognition (IVPR)* and *11th International Conference on Informatics, Electronics & Vision (ICIEV)*, London, UK, 2023.

- R. Zewail, **T. Bakr**, and A. Abdullatif, "Resource-Aware Identification of COVID-19 Cough Sounds Using Wavelet Scattering Embeddings," *Proceedings of the 2nd International Mobile, Intelligent, and Ubiquitous Computing Conference (MIUCC)*, Cairo, Egypt, 2022, pp. 365–370, doi: 10.1109/MIUCC55081.2022.9781738.

HONOR AND AWARDS

- **NeurIPS 2024:** Erasing the Invisible Challenge (First Place Black Box Track) (First Place Biege Box Track).

- **GITEX 2024:** Cyber Hackathon: Battle of The Elite Capture The Flag Competition (First Place).

- **Mohamed bin Zayed University of Artificial Intelligence (MBZUAI)**: Awarded merit-based full-funded scholarship to study M.Sc in Machine Learning.

- **CyberTalents:** Introduction to Cybersecurity Bootcamp Capture The Flag Competition (First Place).

- **Egypt-Japan University of Science and Technology (E-JUST)**: Awarded merit-based full-funded scholarship to study B.Sc in Computer Engineering.

- **U.S Embassy in Cairo**: Awarded the English Access Micro-scholarship Program

TECHNICAL SKILLS

Languages: Python, C/C++, Java, JavaScript, MATLAB.
Frameworks: NodeJs, ExpressJs, ReactJs, VueJs, FastAPI, Django with (DRF), Flask, Pytorch, Tensorflow, OpenCV.
Conceptual Knowledge: Algorithms, Data Structures, Design Patterns, Machine Learning, Cybersecurity.
Other: Docker, Git/GitHub, MySQL, PostgreSQL, MongoDB, Linux.

References upon request