

Mai Ahmed Shaaban Mohamed Kassem

Postdoctoral Associate & Assistant Lecturer

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PROFILE SUMMARY

Experienced machine learning researcher with expertise in multimodal AI, medical vision-language models, retrieval-augmented generation and continual learning. Received a Ph.D. in Machine Learning from Mohamed bin Zayed University of Artificial Intelligence (MBZUAI). Obtained an M.Sc. in Computer Science from Alexandria University. Author of 10+ publications in top-tier venues, with 4+ years of experience in teaching and academic service. Member of the MICCAI 2026 organizing committee, a premier conference in medical image computing.

EDUCATION

Mohamed bin Zayed University of Artificial Intelligence (MBZUAI), Abu Dhabi, United Arab Emirates

Ph.D. in Machine Learning – 2026

- GPA: 3.57 out of 4 (Excellent)
- Dissertation: *From Conventional DNNs to Retrieval-Grounded Vision-Language Modeling for Medical Diagnosis*.

Department of Mathematics and Computer Science – Faculty of Science, Alexandria University, Alexandria, Egypt

M.Sc. in Computer Science – 2022

- GPA: 3.83 out of 4 (with Distinction)
- Thesis Title: *Phishing Detection in Short Messages using Machine Learning Approach*.

B.Sc. in Computer Science – 2017

- GPA: 3.73 out of 4 (Excellent with Honors).
- Graduation Project: Mobile and PC game using Android SDK, Unity3D game engine, C# programming language, Firebase, and Google VR SDK.

ACADEMIC EXPERIENCE

Postdoctoral Associate – Mohamed bin Zayed University of Artificial Intelligence – UAE (June 2026 – Present)

- Conducting research on multimodal AI for healthcare and human-AI collaboration.

Permanent Academic Appointment – Faculty of Science, Alexandria University – Egypt (Dec 2018 – Present)

- Positions: Assistant Lecturer (2022 – Present), Teaching Assistant (2018 – 2022).
- Courses: Machine Learning, Data Science, Artificial Intelligence, Data Structures, Databases, OOP, Game Programming and Mobile App Development.
- Prepared course materials and taught 10+ courses for 1000+ undergraduate students.

Reviewer – MICCAI 2026 Conference & MICCAI 2025 HECKTOR Challenge (Sep 2025 – Apr 2026)

- Reviewed research paper submissions for the MICCAI 2026 conference.
- Evaluated participant submissions for the 4th edition of the MICCAI HECKTOR Challenge.

Visiting Scholar – Carleton University – Canada (Jun 2024 – Sep 2024)

- Conducted a comprehensive study investigating hallucination reduction in medical visual question answering through retrieval-augmented generation.

Teaching Assistant – Mohamed bin Zayed University of Artificial Intelligence – UAE (Aug 2023 – Mar 2025)

- Mentored and supervised code labs for postgraduate students.
- Courses: Introduction to Artificial Intelligence, Medical Image Analysis, Medical Multimodal Vision.

PUBLICATIONS

- Shaaban, M. A., Saleem, T. J., Mohamed, A., Utemissova, D., Khan, U., & Yaqub, M. (2026). Towards Task-Incremental Continual Learning in Medical Visual Question Answering. *Under review in MICCAI*.

- Shaaban, M. A., Zarei, M. R., Khan, A., Akkasi, A., Yaqub, M., & Komeili, M. (2026). Towards Multimodal Retrieval-Augmented Generation for Medical Visual Question Answering. *Under review in Scientific Reports*.
- Shaaban, M. A., Saleem, T. J., Papineni, V. R. K., & Yaqub, M. (2025). [MOTOR: Multimodal Optimal Transport via Grounded Retrieval in Medical Visual Question Answering](#). *MICCAI* (pp. 459-469). Springer.
- Khan, A., Choubineh, A., Shaaban, M. A., Akkasi, A., & Komeili, M. (2025). [TactileNet: Bridging the Accessibility Gap with AI-Generated Tactile Graphics for Individuals with Vision Impairment](#). *IEEE SMC*.
- Shaaban, M. A., Saqib, A., Hardan, S. E., Taratynova, D., Saleem, T. J., & Yaqub, M. (2025). [ME-VLIP: A Modular and Efficient Vision-Language Framework for Generalizable Medical Image Parsing](#). *MICCAI FLARE Challenge*.
- Shaaban, M. A., Khan, A., & Yaqub, M. (2024). [Medpromptx: Grounded multimodal prompting for chest x-ray diagnosis](#). *MICCAI* (pp. 211-222). Springer.
- Ridzuan, M., Shaaban, M. A., Saeed, N., Sobirov, I., & Yaqub, M. (2024). [HuLP: Human-in-the-Loop for Prognosis](#). *MICCAI* (pp. 328-338). Springer.
- Hardan, S., Shaaban, M. A., Abdalla, J., & Yaqub, M. (2024). [Affordable and real-time antimicrobial resistance prediction from multimodal electronic health records](#). *Scientific Reports*, 14(1), 16464.
- Akkasi, A., Khan, A., Shaaban, M. A., Komeili, M., & Yaqub, M. (2024, June). [iML at SemEval-2024 Task 2: Safe Biomedical Natural Language Interference for Clinical Trials with LLM Based Ensemble Inferencing](#). *Proceedings of the 18th International Workshop on Semantic Evaluation (SemEval-2024)* (pp. 170-174).
- Khan, A., Shaaban, M. A., & Khan, M. H. (2024). [Improving Pseudo-labelling and Enhancing Robustness for Semi-Supervised Domain Generalization](#). *VISAPP - 19th International Conference on Computer Vision Theory and Applications*.
- Shaaban, M. A., Akkasi, A., Khan, A., Komeili, M., & Yaqub, M. (2023). [Fine-Tuned Large Language Models for Symptom Recognition from Spanish Clinical Text](#). *Proceedings of the Biocreative VIII Challenge and Workshop: Curation and Evaluation in the Era of Generative Models*. AMIA 2023 Annual Symposium, New Orleans, USA.
- Sanjeev, S., Al Khatib, S. K., Shaaban, M. A., Almakky, I., Papineni, V. R., & Yaqub, M. (2023). [PECon: Contrastive Pretraining to Enhance Feature Alignment Between CT and EHR Data for Improved Pulmonary Embolism Diagnosis](#). *International Workshop on Machine Learning in Medical Imaging* (pp. 434-443). Springer.
- Shaaban, M. A., Kashkash, M., Alghfeli, M., & Ibrahim, A. (2023). [OptBA: Optimizing Hyperparameters with the Bees Algorithm for Improved Medical Text Classification](#). *arXiv preprint arXiv:2303.08021*.
- Shaaban, M. A., Hassan, Y. F., & Guirguis, S. K. (2022). [Deep convolutional forest: a dynamic deep ensemble approach for spam detection in text](#). *Complex & Intelligent Systems*, 8(6), 4897-4909.

WORK EXPERIENCE

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|---|-----------------------|
| Data Analysis Intern – ITIDA – Egypt | (Sep 2020 – Nov 2020) |
| <ul style="list-style-type: none"> • Completed training on the data analysis process of questioning, wrangling, exploring, analyzing, and communicating data. | |
| Senior Android Developer – Madar Soft – Egypt | (Aug 2018 – Nov 2018) |
| <ul style="list-style-type: none"> • Supervised junior Android developers and published releases of Android Apps. | |
| Android Developer – Swift Future LLC – Egypt | (Jul 2017 – Jul 2018) |
| <ul style="list-style-type: none"> • Released three apps on Google Play Store and collaborated with the team to design and roll out new features. | |
| Software Developer – Freelancer | (Jan 2017 – Apr 2017) |
| <ul style="list-style-type: none"> • Delivered Uber clone app and designed the system database and maintained code quality and app performance. | |
| Technology Management & Entrepreneurship Intern – Intel, TIEC, ITIDA | (Feb 2016) |
| <ul style="list-style-type: none"> • Graduated from the InnovEgypt program for innovation & technology management. • Applied innovative ideas addressing real challenges using structured techniques. | |
| Android Developer Intern – Google, The Egyptian Ministry of Communications | (Nov 2015 – Feb 2016) |
| <ul style="list-style-type: none"> • Earned a certification from the Mobile App Launchpad program for learning Android. • Awarded "Exceeds Specifications" for best graduation project. | |

TECHNICAL SKILLS

- **Programming Languages:** Python, Java, MATLAB, C++
- **Machine Learning Frameworks:** PyTorch, Hugging Face, MONAI, TensorFlow
- **Miscellaneous:** Android, Unity3D, Databases, Web Services, Third-Party Libraries, Location Services, Socket Programming, Design Patterns, Material Design, Project Management, Problem Solving, Version Control (Git)

RECENT PROJECTS

Multimodal Model for Medical Image Parsing (Aug 2025)

Implemented a multimodal model that generalizes across nine medical imaging modalities for five clinical tasks: classification, detection, cell counting, regression, and report generation.

Cancer Diagnosis and Prognosis (Nov 2024)

Designed and implemented a top-performing AI solution for lung and prostate cancer detection, accelerating diagnostic workflows as a key contributor to the EU-funded CHAIMELEON project.

Balanced Medical Net (Jun 2023)

Engineered a balanced contrastive learning method to mitigate performance degradation from long-tailed data distributions in medical imaging.

Prediction of Acute Respiratory Failure (May 2023)

Developed an optimal transport-based model for imbalanced EHR classification, fusing multimodal data to generate comprehensive patient health profiles.

MEMBERSHIPS & EXTRACURRICULAR

Organizing Committee Member – The MICCAI Society (Dec 2024 – Present)

Collaborating with a committee of academics and professionals to coordinate event logistics, vendor relations, and on-site operations.

AI Instructor – MBZUAI Executive Program (Nov 2025)

Delivered AI training to senior government and industry leaders, supporting organizational AI adoption aligned with the UAE's national innovation agenda.

Instructor – Faculty of Science, Alexandria University (Feb 2017)

Presented Android application development courses to Computer Science students, enhancing their mobile app development skills.

Head of Technical Committee – Non-profit Organization (Aug 2015 – Jul 2017)

Supervised and managed several workshops dedicated to programming.

HONORS & AWARDS

1st Place – MICCAI 2025 FLARE Challenge (Sep 2025)

Awarded for outstanding contributions to multimodal model generalization in medical imaging.

Travel Grant Recipient – MBZUAI (July 2025)

Awarded competitive funding to support research presentation at an international conference.

Guest Speaker – Clinical AI Lab, NYUAD (Oct 2024)

Invited to present my recent research on machine learning for healthcare.

MBZUAI Graduate Scholarship – MBZUAI (Aug 2022)

Received the highly competitive scholarship for a Ph.D. in Machine Learning.

Egypt Government Excellence Award Recipient – Ministry of Planning & Economic Development (Sep 2019)

Participated in the semi-finals to develop an educational solution.

Galactic Problem Solver – NASA (Apr 2017)

Developed a mobile app to address the challenges of planet Earth.

Ideal Student – Faculty of Science, Alexandria University (Feb 2017)

Awarded to the top-ranked student in the 2017 cohort for academic excellence and volunteer service.

Teacher Badge – Stack Overflow (Dec 2016)

Earned the badge for providing the best answers to programming questions.

HACKATHONS

GITEX AI InnovateFest – Alibaba Cloud Secured the first runner-up prize out of 15 teams by developing a generative AI healthcare solution.	(Oct 2023)
Hajj Hackathon – Google, Saudi Federation of Cybersecurity Designed and pitched an innovative fintech solution for international pilgrims at the world's first Hajj Hackathon, competing against 3,000+ global technologists.	(Aug 2018)

TRAININGS & CERTIFICATIONS

Machine Learning Winter School – MBZUAI Completed intensive training covering representation learning and generative AI.	(Feb 2026)
RISE-MICCAI Winter School – MBZUAI Completed training in medical vision for radiology and foundation models in computational biology.	(Nov 2025)
Credentialed Access – PhysioNet Gained access to protected medical databases upon completing the required training.	(Jan 2023)
Data Analysis Professional – ITIDA Completed the nanodegree program in data analysis.	(Oct 2020)
Developing Android Apps – Google Completed the Android development degree and graduated with the highest rank.	(Feb 2016)

CONFERENCES

MICCAI Conference – Morocco and South Korea Presented research papers and showcased posters on multimodal medical data.	(Oct 2024 & Sep 2025)
Apsara Conference – Hangzhou, China Presented a healthcare solution utilizing Generative AI.	(Nov 2023)
UAE Graduate Students Research Conference – Abu Dhabi, UAE Attended the conference of the GSRC 2023.	(Apr 2023)
Emirates Society of Clinical Microbiology – Abu Dhabi, UAE Participated in the 2nd annual conference of the ESCM – DOH accredited.	(Dec 2022)

REFERENCES

Professor

Name: Ahmed Younes

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Department of Mathematics and Computer Science, Faculty of Science, Alexandria University, Egypt

Associate Professor

Name: Mohammad Yaqub

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