

Curriculum Vitae (CV)

Dr. Nour Said Ibrahim Bakr

Assistant Professor, Biomedical Engineering Department,

Manager of Quality Assurance Unit,

Higher Technological Institute, 10th of Ramadan City

Consultant for quality and accreditation affairs,

Higher Technological Institute, 6th of October

Personal Information

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Institute - Building 1.

Academic Experience

Teaching Assistant, Biomedical Engineering Department, Higher Technological Institute, 10th of Ramadan City, **from September 2003.**

Assistant lecturer (PhD student), Biomedical Engineering Department, Higher Technological Institute, 10th of Ramadan City, **from November 2009.**

Assistant Professor, Biomedical Engineering Department, Higher Technological Institute, 10th of Ramadan City, **from August 2019.**

Quality Experience

Quality Coordinator, Biomedical Engineering Department, Higher Technological Institute, 10th of Ramadan City, **from September 2019.**

Deputy Director of Quality Assurance Unit, Higher Technological Institute, 10th of Ramadan City, **from November 2020.**

Manager of Quality Assurance Unit, Higher Technological Institute, 10th of Ramadan City, **from September 2023 up till now.**

Consultant for quality and accreditation affairs, Higher Technological Institute, 6th of October, **from October 2024 up till now.**

Education

Degree	Discipline	Institution	Year
B.Sc.	Biomedical Engineering	Biomedical Engineering Department, Higher Technological Institute	1998-2003
M.Sc.	Bioinformatics, Data Compression, DNA Sequence Compression	Systems and Biomedical Engineering Department, Cairo University, Faculty of Engineering	2003-2008
Ph.D.	Bioinformatics, Data Compression, DNA Sequence Compression	Systems and Biomedical Engineering Department, Cairo University, Faculty of Engineering	2011-2017

Research interests

- ❖ Systems for deaf, dumb and blind.
- ❖ Bioinformatics.
- ❖ Data Compression.
- ❖ Biomedical Systems.
- ❖ Medical Imaging Systems.

Publications

Nour S. Bakr, Amr A. Sharawi, "DNA Lossless Compression Algorithms Review", American Journal of Bioinformatics Research, 2013, Vol. 3, No. 3, pp. 72-81.

Nour S. Bakr, Amr A. Sharawi, "Improve the Efficiency of gzip Compression on DNA Sequence", Proceeding of the 2nd International Sino-Egyptian Congress on Agriculture, Veterinary Sciences and Engineering (ISECAVE2), Benha, Egypt, 2017.

Nour S. Bakr, Amr A. Sharawi, "Improve the Compression of Bacterial DNA Sequence", Proceeding of the of 13th International Computer Engineering Conference (ICENCO 2017), Cairo, Egypt, 2017. (IEEE xplore).

Nour S. Bakr, Ahmed Awad, Abd El-hammed Kerimd , "Detection of COVID-19 Using Deep Learning" , Under published at 2nd International Conference on Intelligent Systems, Blockchain, and Communication Technologies, May 10-11, 2025, ElSewedy University of Technology, Egypt.

Certifications or Professional Registrations

Concepts of quality assurance and accreditation for academic leaders in colleges and institutes of higher education, **NAQAAE**, November 2018.

Effective teaching and learning strategies for colleges and institutes of higher education, **NAQAAE**, November 2018.

Description of programs and courses and evaluation of learning outcomes for colleges and institutes of higher education, **NAQAAE**, April 2019.

Examination and student evaluation systems for colleges and institutes of higher education, **NAQAAE**, February 2020.

Self-evaluation of higher education institutions for programmatic accreditation, **NAQAAE**, February 2021.

Self-evaluation of higher education institutions for the administrative system, **NAQAAE**, March 2021.

Strategic Planning for colleges and institutes of higher education, **NAQAAE**, March 2022.

External review for colleges and institutes of higher education, **NAQAAE**, October 2022.

Digital Transformation in Higher Education,
DAAD Kairo Akademie, September 2022.

Strategic Planning as Core to Strategic Management,
DAAD Kairo Akademie, September 2022.

Credit Hours and Academic Advisor,

Training & Development Center – Ain Shams University, October 2023.

First Aid awareness,

Workers' Cultural Foundation, November 2023.

International Publishing of Scientific Research,

FLDC – Cairo University, January 2024.

Anti-corruption Mechanism in Organizations and Institutes,

National Institutes of Standards (NIS) - TQC, January 2024.

Internal Reviews of Laboratory Quality Systems,

National Institutes of Standards (NIS) - TQC, January 2024.

Scientific Research Ethics,

FLDC – Cairo University, June 2024.

Ethics and Professional Skills in University Education,

FLDC – Cairo University, June 2024.

Digital Transformation in Higher Education Institutions,

FLDC – Cairo University, July 2024.

Egyptian Knowledge Bank (EKB) and Searching for Sources,

FLDC – Cairo University, July 2024.

Sustainable Development in University Education,

FLDC – Cairo University, July 2024.

University Management,

FLDC – Cairo University, July 2024.

Teaching Experience - Courses taught

Computers and Data Processing:

Data Structures, Data Compression and Medical Informatics.

Bioinformatics:

Biological Data Bases and discuss the Biological Problems such as Gene Finding and Evolutionary Tree Construction and Disease Diagnosis.

Computer Programming:

Solve problems, design algorithms and write programs with C++ Language.

Medical Imaging Equipment's:

Radiation physics, different types of X-ray machines, computed tomography, recording media, X-ray safety and protection.

Nuclear and Radiating Systems:

Nuclear medicine physics, PETCT, SPECT, Gamma Camera, Gamma Knife, Cobalt60 Proton Therapy and linear accelerators, Nuclear Medicine safety and protection.

Basics of Electronics:

Semiconductors, Diode, BJT, MOSFET, and applications (Amplifier and Filters).

Biomedical Electronics:

Sensors (Transducer and Electrodes), Bio-amplifiers and Medical Applications.

Electronic Systems:

Biomedical System Design using Arduino.

Computer Fundamentals (1):

Logic Gates, En/Decoder, Mux/ Demultiplexer, Memory.

Computer Fundamentals (2):

Basic structure of computer design (combinational and sequential circuits).

International Computer Driving License, ICDL:

IT, Windows, Microsoft Office (Word, Power Point, Excel, and Access), and Internet.

Supervising graduation projects

- ❖ Mobile App. for Autistic Children.
- ❖ Mobile App. Health Care System.

- ❖ Heart Disease Prediction using Machine Learning Algorithms.
- ❖ Brain Tumor Detection using Convolutional Neural Network.
- ❖ Detection of COVID-19 using Deep Learning.
- ❖ Auto Diagnosis endoscopy, ADendo.
- ❖ ECG Heartbeat Classification.

- ❖ Ultra Sound Kit.
- ❖ Strabismus camera.
- ❖ X-ray Diagnosis system.
- ❖ IOT CPAP and BIPAP.

- ❖ Virtual reality applications in medicine.

- ❖ Blind's cap.
- ❖ Sign Language Glove.
- ❖ Glove assistant for the deaf.
- ❖ Tri-Disability Assistive Device, T-DAD.
- ❖ Smart glasses for blind people, Horus glass.

Quality and accreditation work

Active participation in the following seven programs **accreditation visits** from **NAQAAE**, by fulfilling, technical support, and continuously reviewing accreditation requirements from Self-Study Report (SSR), program and course "descriptions and reports":

- ❖ Chemical Engineering Program, 26 – 28 November, 2023.
- ❖ Mechanical Engineering "General Division" Program, 18 – 20 February, 2024.
- ❖ Mechatronics Engineering Program, 18 – 20 February, 2024.
- ❖ Civil Engineering Program, 18 – 20 February, 2024.
- ❖ Architecture Engineering Program, 18 – 20 February, 2024.
- ❖ Electrical Engineering Program, 18 – 20 February, 2024.
- ❖ Biomedical Engineering Program, 25 – 27 February, 2024.

Accreditation from **NAQAAE** for the following six programs:

- ❖ **Electrical Engineering Program and Biomedical Engineering Program, Full accreditation**, five years from 25 September, 2024.
- ❖ **Mechanical Engineering "General Division" Program, Mechatronics Engineering Program, Civil Engineering Program, and Architecture Engineering Program, Conditional accreditation**, one and a half years from 25 September, 2024.

Participation in preparing and reviewing the **self-assessment report** on the Higher Technological Institute's - 10th of Ramadan City performance, submitted to the Engineering and Industrial Institutes Sector Committee affiliated with the Ministry of Higher Education and Scientific Research - for **session No. 10 of 2021, session No. 11 of 2022, session No. 12 of 2023, and session No. 13 of 2024.**

Chairing the Strategic Planning Committee and completing the Higher Technological Institute's - 10th of Ramadan City, **strategic plan 2024-2029** after conducting a SWOT analysis with the participation of all internal and external parties.

Chairing the Higher Technological Institute's - 10th of Ramadan City, **Institutional Accreditation** Working Group to complete and review, Self-Study Report (SSR) for submission to the NAQAAE in July 2025.

Launching a number of electronic systems:

- ❖ Create a **digital archive of quality practices** in departments and administrations under the name "HTI-Data Bank" on One Drive.
- ❖ Create a **digital system to collect and review the course file items** for each semester on One Drive.
- ❖ Create a **WhatsApp. Group** called “الجودة ممارسة موثقة” to quickly and easily communicate with senior management and academic departments.
- ❖ Create a **quality channel on WhatsApp**. - called “لغة الجودة”, to spread the culture and practices of quality as well as accreditation news.

Establish an **administrative structure for the Quality Assurance Unit** that is consistent with updates to programmatic and institutional accreditation standards, including seven internal committees.

- ❖ Strategic Planning Committee.
- ❖ Institute Self-Study Preparation Committee.
- ❖ Academic Standards Committee for Programs.
- ❖ Review and Technical Support Committee.
- ❖ Training and Awareness Committee.
- ❖ Performance Measurement and Evaluation Committee.
- ❖ Supporting Material Facilities Committee.

Preparing and presenting many training courses:

- ❖ Improving administrative correspondence and letters.
- ❖ Academic Advising in its integrated concept.
- ❖ Reinforcement and development plans within the institution.
- ❖ Psychological security in the work environment.

Establishing a **periodic follow-up system for all quality requirements and practices** in departments and administrations - one weekly and the other monthly.

Honors and Awards

Honored by the BEAT Scientific Club - Faculty of Engineering, Cairo University for the **joint work and support for organizing and holding the first BEAT conference** (Biomedical Engineering Awareness and Technologies) at the Higher Technological Institute, 10th of Ramadan City, April 2018.

Honored by the Engineers Syndicate in Sharkia Governorate, in appreciation of his **good effort and serious work in serving our beloved country, Egypt and its students**, March 2019

Honoring from the Innovators Support Fund (ISF) as a supervisor for the Ultra-Vision team “Ultra Sound Kit Project” **among the 20 best projects in Egypt** in the Innovation Catalyst IC2022 competition, 2022.

The 3th Place award with “**Sign Language Glove Project**”, in the 3th Egyptian Junior Researcher Completion – 14th UGRF, Nile University, August 2022.

The 2nd place award in the Geniuses Forum for the academic year 2022/2023 in the student project “**Strabismus camera**” at the Obour Institute under the auspices of the General Administration of Student Welfare at the Ministry of Higher Education.

The 3th place award in the Geniuses Forum for the academic year 2022/2023 in the student project “**Virtual reality applications in medicine**” at the Obour Institute under the auspices of the General Administration of Student Welfare at the Ministry of Higher Education.