

FINAL EXECUTIVE INTERVIEW • DEAN & PROVOST 10-MINUTE SELF-BRIEF SCHOOL OF ITCS • NILE UNIVERSITY

Teaching Excellence, Research Leadership & Administrative Governance

Synthesizing US Federal Grant Leadership, High-Impact AI Scholarship, and Institutional Service for Nile University

Islam Akef Ebeid, Ph.D.

Candidate for Associate Professor of Artificial Intelligence • School of ITCS

Lead PI, National Science Foundation (NSF) CISE/CCF Grant | Director, [Data2AI4LifeSciences Lab](#)

BSc (Ain Shams Univ.) • Professional MSc (Arkansas Tech) • MSc & Ph.D. (UA Little Rock / UT Austin) • FE & ITIL Certified

Executive Profile & Career Trajectory

Bridging Egyptian engineering roots with 15+ years of US R1/R2 academia, federal grants, and global tech R&D

\$671K

TOTAL GRANT FUNDING
(\$600K NSF / \$210K LEAD PI)

14 + 13

14 REFEREED PAPERS
+ 13 TECHNICAL REPORTS

4.5 / 5

MEAN TEACHING EVAL
(12+ COURSES ACROSS 4
UNIVS)

6+ Roles

ADMIN & GOVERNANCE
(SEARCH, AI, CURRICULUM)

Education, Honors & Certifications

2014 – 2022 | UA Little Rock & UT Austin (72 Transferred Ph.D. Cr)

MSc & Ph.D. in Computer & Information Science

Outstanding Doctoral Graduate (2022) • ACM ETRA Best Short Paper (2019) • UT Austin Recruitment & PD Fellowships • Data Science for Social Good Fellow (2020)

2003 – 2013 | Arkansas Tech Univ. & Ain Shams Univ.

Prof. MSc in CIS (ATU) • BSc in Computer & Systems Eng. (ASU)

Distinctive Capstone Award (2008) • Certifications: FE, ITIL, Egyptian Syndicate of Engineers, AAUP

Academic & Industrial Leadership

2022 – 2026 | US Faculty & Postdoctoral Appointments

Assistant Professor (TWU & SAU) • NIH Postdoc (UNT)

Founded Data2AI4LifeSciences Lab; won NSF CISE grant in Year 1 (TWU Hanover Grants Academy Award 2023); NIH R01 grant writing & GNN drug repurposing.

2005 – 2020 | Global R&D & Enterprise Engineering

AbbVie, Intel Corp (CA), TACC, Arkansas.gov, Orange, WeDo, Vodafone

Pharma KG link prediction (AbbVie), GPU Visual SLAM (Intel), Lockheed Martin eye-tracking cognitive load (UT Austin), & telecom billing systems.

PILLAR 1 • RESEARCH & GRANTS

Research Leadership & Funded Lab Ecosystem

Director of the Data2AI4LifeSciences Lab • Multi-agency federal, institutional, and corporate funding

ACTIVE FEDERAL GRANT (2025–2028)
NSF CISE/CCF (#2523786)

\$600,000 Total (\$210K PI)

Lead PI: Auto-prompt textual annotations with domain knowledge for multimodal medical image segmentation (with UTRGV).

INSTITUTIONAL AWARDS (2023–2025)

Lab Startup & HPC Grants

\$66,000 + \$5,000

Principal Investigator: Established the *Data2AI4LifeSciences Lab*, GPU workstations, HPC memory upgrade, and student stipends.

PRIOR SPONSORED R&D
NIH, NSF, Intel & Lockheed

4 Sponsored Programs

NIH Drug Repurposing & R01 dev (UNT); NSF Entity Resolution (UALR); Lockheed Martin Cognitive Load & Intel HPC (UT Austin/TACC).

Core Research Pillars

- ▶ **Data Quality & Entity Resolution (ER):** Unsupervised graph clustering, spectral modularity optimization, and data observability for trustworthy AI.
- ▶ **Biomedical Knowledge Graphs & GNNs:** Integrating multi-omics, proteomics, clinical imaging, and 35M+ PubMed citations for drug discovery.

Human-Centered & Translational AI

- ▶ **Cognitive & Eye-Tracking Modeling:** Bayesian mixed-effects Markov models and real-time gaze transition entropy in high-stakes environments.
- ▶ **Industrial Translation:** Predictive drug-target interaction pipelines validated with **AbbVie** and GPU computer vision with **Intel**.

PILLAR 1 • DISSEMINATED SCHOLARSHIP

High-Impact Publications & Frontier AI

7 Refereed Journal Papers • 7 Peer-Reviewed Conference Papers (25% Mean Acceptance Rate) • 4 Theses • 13 Reports

Selected Refereed Journal Articles (n = 7)

- ▶ **Frontiers in Bioinformatics (2025):** *Inferred global dense residue transition graphs from primary structure sequences enable protein interaction prediction via directed graph convolutional neural networks* (Ebeid, Tang, Gu).
- ▶ **Scientific Data — Nature (2020):** *Building a PubMed knowledge graph* (35M+ papers disambiguated & linked to NIH grants).
- ▶ **Frontiers in Big Data (2022):** *MedGraph: A semantic biomedical information retrieval framework using knowledge graph embedding*.
- ▶ **IJACSA (2022):** *ModER: Graph-based Unsupervised Entity Resolution using Composite Modularity Optimization & LSH*.
- ▶ **Scientometrics (2021, 2022) & Voluntas (2021):** Entity metrics on COVID-19 literature & computational social science toolboxes.

Selected Peer-Reviewed Conferences (n = 7)

- ▶ **IEEE CBMS (2025):** *Adapting a Segmentation Foundation Model for Medical Image Classification* (Spatially Localized Channel Attention).
- ▶ **Springer ITNG (2022) & iConference (2021):** *Graph-based hierarchical record clustering for unsupervised ER & Biomedical KG refinement*.
- ▶ **ACM SIGKDD Workshop (2020):** *Coronavirus Knowledge Graph: A Case Study*.
- ▶ **ACM SIGCHI ETRA (2018, 2019):** *Bayesian mixed-effects Markov models* (**Best Short Paper Award**) & *Real-time gaze transition entropy*.
- ▶ **Electronic Imaging EI (2016):** *Protein Chemical Cross-linking/Mass Spectrometry: Immersive CAVE visualizations* (VisInt-X).

Personal Frontier Initiative: Taming the AI Parameter Explosion via Neuro-Symbolic GNNs

Addressing the unsustainable trillion-parameter scaling bottleneck in foundation models by replacing brute-force weight memorization with dynamically queried **Graph Neural Networks** and **formal symbolic logic constraints**—enabling verifiable, green, and compact AI at Nile University.

PILLAR 2 • TEACHING & MENTORSHIP

Teaching Record, Curriculum & Advising

12+ Courses Taught Across 4 US Universities • Research-Led Guild Pedagogy • 7 Graduate Capstones/Theses Mentored

TWU (Eval: 4.2 / 5.0)

- ▶ **CSCI 5773:** Artificial Intelligence (*Course Developer*)
- ▶ **CSCI 4823:** Principles of Data Mining
- ▶ **CSCI 4623:** Big Data & High-Perf. Computing
- ▶ **CSCI 3603/5173:** Foundations of Data Science
- ▶ **CSCI 4513/5803:** Data Warehousing
- ▶ **CSCI 5663:** Statistical Programming
- ▶ **CSCI 5103 & 5001:** Informatics & Prog.

SAU (4.5/5) & UT Austin (4.75/5)

- ▶ **UT Austin (Instructor):** Fundamentals of Computer Vision & Machine Learning (2018, 2019)
- ▶ **SAU (Instructor):** Computer Science II (Python OOP), Database Mgmt Systems, Unix OS
- ▶ **UT Austin (Grad TA, 7 Courses):** AI in Healthcare, Human-AI Interaction, Data Semantics, Virtual Environments, Research
- ▶ **UALR & ATU (TA):** Info Vis, Python, Networks

7 Advised Capstones (2024–25)

- ▶ **M. Karim (2025):** Automated EDW for Cybersecurity Incident Analytics
- ▶ **P. Berko (2024):** ML for Drug Repurposing
- ▶ **D. Pettway (2024):** Oral Microbiome & CVD Risk
- ▶ **Y. Martinez (2024):** First-Gen Student Success at R1s
- ▶ **H. Campbell & M. Bobo (2024):** Credit Card Fraud Predictive Modeling
- ▶ **J. Frazier (2024):** Alzheimer's Progression ML

Pedagogy & ITCS Readiness: Live-coding debugging, NSF dataset integration, and HyFlex delivery. Ready on Day 1 to teach undergraduate/graduate core courses (*AI, ML, Deep Learning, Databases, Algorithms, Big Data/HPC*) and launch new electives in **AI in Life Sciences** and **Foundation Model Governance & MLOps**.

PILLAR 3 • ADMINISTRATIVE & GOVERNANCE ROLES

Academic Administration & Institutional Service

Proven leadership in faculty recruitment, university AI strategy, curriculum governance, and scholarly review

Departmental & University Governance

2023 – 2024 | Division of Computer Science, Texas Woman's University

Recruitment Coordinator — Faculty Search Committee

Directed faculty recruitment workflows, job announcements, candidate screening rubrics, campus interview schedules, and faculty onboarding.

2024 | Texas Woman's University

Member — University AI Initiative Committee

Shaped university-wide administrative policies, ethical guidelines, and academic strategies for generative and applied AI adoption.

2024 | Division of Computer Science, Texas Woman's University

Member — Division Curriculum Committee

Evaluated degree requirements, audited course syllabi, and spearheaded graduate AI curriculum modernization.

2018 – 2024 | TWU, SAU & UT Austin

Sustainability, Diversity & Student Organization Leadership

University Sustainability Committee (TWU, 2024) • Faculty Advisor, CS Club (SAU, 2023) • Diversity & Inclusion Committee (UT Austin, 2018–19).

Editorial Governance, Peer Review & Civic Service

▶ Editorial Boards & Editing:

- *Editorial Board Member*: Research in Biomedical Engineering & Technology (2025–Present)
- *Editorial Fellow*: Journal of Information & Culture, UT Press (2019)
- *Publication Editor*: IEEE MeMeA Symposium (2017)

▶ Journal Referee (5 Venues):

- *Nature Quality & Quantity* (2025) • *Journal of Supercomputing* (2025)
- *Cambridge Univ. Press J. Natural Language Engineering* (2022–2023)
- *J. Nonprofit Mgmt & Leadership* (2024) • *J. Imaging Sci. & Tech.*

▶ Conference Referee & Representation:

- ACM SIGKDD, ACM CIKM, IEEE BIBM, ACM SIGCHI ETRA
- Institutional Representative at *Supercomputing (SC)*, *TACCSTER*, *ACM SIGCSE*, & *MCBIOS*.

▶ Community Leadership: Resala Foundation (Cairo), Refugee Services of Texas, Dallas CASA, Citizens' Climate Lobby.

Strategic Value Proposition for Nile University

Integrating research funding, curricular innovation, and administrative leadership at ITCS

1. RESEARCH & FUNDING ENGINE

External Grant Leadership

- ▶ Establish the **Data2AI4LifeSciences Lab** at Nile University.
- ▶ Translate US NSF PI track record into winning **STDF**, **ASRT**, and EU Horizon proposals.
- ▶ Engage NU students in active international US-Egypt collaborative publications.

2. CURRICULAR EXCELLENCE

Industry-Ready AI & CS

- ▶ Deliver high-enrollment core CS/AI courses and graduate seminars with 4.5+ teaching rigor.
- ▶ Bridge academic theory with industrial **MLOps**, **Data Observability**, and **Bio-AI**.
- ▶ Train MSc/PhD theses aligned with Egypt's healthcare and tech sectors.

3. INSTITUTIONAL BUILDER

Accreditation & Governance

- ▶ Contribute immediately to **ABET / NAQAAE accreditation**, curriculum review, and faculty recruitment.
- ▶ Build R1/R2 international partnerships (UT System, TWU, UALR) and local industry consortia.
- ▶ Advance **Egypt Vision 2030** in AI sovereignty and digital transformation.

Long-Term Commitment: Finalizing permanent relocation to Egypt—bringing a proven blend of US federal grant leadership, evaluated teaching mastery, and proactive administrative citizenship to serve Nile University.

THANK YOU • 10-MINUTE SELF-BRIEF

Questions & Executive Discussion

Thank you to the Dean, the Provost, and the Final Interview Committee • Nile University

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Academic Portal: iebeid.github.io • Lab: [Data2AI4LifeSciences Lab](#)

Scholarly Profiles: [Google Scholar](#) | [ResearchGate](#) | [DBLP](#)

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