College of Computer Science and Mathematics - 2025 Annual Academic Report

I. Postgraduate Studies (Theses & Dissertations)

A detailed record of successfully defended theses and dissertations across all departments:

January 2025

- **M.Sc. Thesis (Computer Science):** "Professor Classification in Streaming Databases for the Department of Computer Science."
    - **Candidate:** Azhar Mohammed Salih | **Supervisor:** Asst. Prof. Dr. Ammar Zahir Yassin (Jan 12, 2025).
- **Ph.D. Dissertation (Computer Science):** "Intelligent Cyber Deception Model Based on Software-Defined Systems."
    - **Candidate:** Herman Yousef Ibrahim | **Supervisor:** Asst. Prof. Dr. Najlaa Badi' Ibrahim (Jan 19, 2025).
- **M.Sc. Thesis (Statistics):** "Statistical Prediction of Thalassemia Behavior Using Radial Basis Function (RBF) Networks."
    - **Candidate:** Mohammed Faris Ali Ahmed | **Supervisor:** Asst. Prof. Dr. Hutheifa Hazim Taha (Jan 21, 2025).
- **M.Sc. Thesis (Statistics):** "Non-parametric Estimation of Probability Distribution Functions Using Ranked Set Sampling with Application."
    - **Candidate:** Rami Saad Ghareeb | **Supervisor:** Asst. Prof. Dr. Rikan Abdulaziz Ahmed (Jan 23, 2025).
- **Ph.D. Dissertation (Computer Science):** "Micro-load Prediction in a Cloud-Based Distributed System for Traffic Violation Issuance."
    - **Candidate:** Samah Fakhri Aziz Mohammed | **Supervisor:** Prof. Dr. Manar Younis Ahmed (Jan 26, 2025).
- **Higher Diploma (Statistics):** "Construction and Analysis of Confirmatory Factor Models and Multi-Group Structural Equations with Application."
    - **Candidate:** Ahmed Luqman Mohammed Taher | **Supervisor:** Dr. Omar Salem Ibrahim (Jan 29, 2025).

February 2025

- **Ph.D. Dissertation (Mathematics):** "Solving Fuzzy Systems of Integral Equations via Homotopy Analysis and Numerical Methods."
    - **Candidate:** Zeina Talal Yassin | **Supervisor:** Asst. Prof. Dr. Walid Mohammed Fathi (Feb 6, 2025).
- **M.Sc. Thesis (Software Engineering):** "Intrusion Detection Based on Meta-Learning."
    - **Candidate:** Zahraa Hani Salem | **Supervisor:** Prof. Dr. Safwan Omar Hassoon (Feb 11, 2025).

- **M.Sc. Thesis (Software Engineering):** "Anomaly Prediction in Software Systems Using Ensemble Learning."
  - **Candidate:** Raghda Azad Hassan | **Supervisor:** Prof. Dr. Ibrahim Ahmed Saleh (Feb 24, 2025).
- **M.Sc. Thesis (Mathematics):** "Real and Complex Dynamics of a Cubic Logistic Function Family."
  - **Candidate:** Baraa Salem Ahmed | **Supervisor:** Dr. Salma Muslih Faris (Feb 26, 2025).
- **M.Sc. Thesis (Software Engineering):** "Designing a Mental Health Application for Adolescent Psychotherapy Support Based on Software Engineering."
  - **Candidate:** Zainab Muayad Younis | **Supervisor:** Asst. Prof. Dr. Naktal Muayad Idan (Feb 26, 2025).
- **Higher Diploma (Statistics):** "Proposed Method for Dimensionality Reduction in Logistic Regression."
  - **Candidate:** Suhaib Bashar Hamid | **Supervisor:** Dr. Mahmoud Mohammed Taher (Feb 27, 2025).
- **M.Sc. Thesis (Software Engineering):** "Developing Software for Automated Guided Vehicle (AGV) Management."
  - **Candidate:** Riham Ibrahim Khalil | **Supervisor:** Asst. Prof. Dr. Naktal Muayad Idan (Feb 27, 2025).

March 2025

- **M.Sc. Thesis (Statistics):** "Non-parametric Linear Programming and Data Envelopment Analysis – Neural Network Models Approach with Application to Educational Institutions."
  - **Candidate:** Omar Ibrahim Mohammed | **Supervisor:** Dr. Oday Abdulrahman Jarjis (March 2, 2025).
- **Higher Diploma (Computer Science):** "Identification of Drought Areas Using Hybrid Machine Learning."
  - **Candidate:** Rafal Nizar Younis | **Supervisor:** Dr. Ruba Talal Ibrahim (March 5, 2025).
- **Higher Diploma (Statistics):** "Using Cluster Analysis in Analyzing Influential Factors with Prediction."
  - **Candidate:** Abdul Salam Idris | **Supervisor:** Dr. Wissam Waad Allah Salim (March 9, 2025).
- **Higher Diploma (Statistics):** "Fuzzy Discriminant Analysis with Applications."
  - **Candidate:** Rafal Talal Saadi | **Supervisor:** Dr. Alaa Abdulsattar Dawood (March 9, 2025).
- **Higher Diploma (Computer Science):** "Automating Electricity Meter Reading and Billing Using Image Analysis."
  - **Candidate:** Bashar Muhannad Thamer | **Supervisor:** Dr. Ghassan Jassim Mohammed (March 10, 2025).
- **Higher Diploma (Statistics):** "Race-Aware Navigation and Guidance System at the University of Mosul."

- o **Candidate:** Yasser Mahmoud Amin | **Supervisor:** Dr. Rayan Yousif Yaqoub (March 10, 2025).
- **M.Sc. Thesis (Computer Science):** "Developing an Intelligent Routing Protocol Using Machine Learning."
    - o **Candidate:** Ghazwan Fawaz Yassin | **Supervisor:** Dr. Ayad Hussein Abdulqader (March 18, 2025).

July 2025

- **M.Sc. Thesis (Mathematics):** "Generating Mittag-Leffler-Kobe Function Using Hadamard Product with Applications."
    - o **Candidate:** Ali Halil Ghathith | **Supervisors:** Prof. Ahmed Mohammed Ali & Asst. Prof. Mohammed Thanun Younis (July 3, 2025).
- **Ph.D. Dissertation (Mathematics):** "Improving Conjugate Gradient Methods for Image Denoising."
    - o **Candidate:** Mohammed Waad Allah Taha | **Supervisor:** Prof. Basim Abbas Hassan (July 7, 2025).
- **M.Sc. Thesis (Mathematics):** "Solving Integro-Differential Equations Using Integral Transform Methods."
    - o **Candidate:** Hydra Aprim Yalda | **Supervisor:** Prof. Abdul Ghafoor Mohammed Amin (July 7, 2025).

II. Academic Promotions

- **Dr. Abdul Ghafoor Mohammed Amin:** Promoted to the rank of **Professor** in the College of Computer Science and Mathematics, effective September 12, 2024 (Administrative Order: Jan 20, 2025).

III. University and College Councils

1. **7th Session (Jan 8, 2025):** Chaired by Dean Prof. Dr. Duha Bashir Abdullah. Agenda included forming defense committees (Zeina Talal, Zahraa Hani, Baraa Salem, Ahmed Luqman), approving English thesis writing, and undergraduate deferments.
2. **8th Session (Jan 26, 2025):** Agenda included forming defense committees (Odai Ahmed, Riham Ibrahim, Zainab Muayad, Omar Ibrahim, Raghda Azad), comprehensive exams for Ph.D. students (Zainab Sami), dissertation title changes (Mohammed Ahmed), and research plans.
3. **9th Session (Feb 10, 2025):** Agenda included forming defense committees (Shafaq Azzam, Arwa Fathi, Muhanad Raed, Ali Hussein, Rana Fathi, Ghazwan Fawaz, Ali Shihab, Rafal Nizar, Suhaib Bashar, Sabreen Mahmoud), comprehensive exam results, and dissertation title changes (Mustafa Raed).
4. **10th Session (Feb 24, 2025):** Agenda included forming defense committees (Ayman Mahmoud, Azhar Zaki, Ghufran Maysar, Bashar Muhannad, Yasser Mahmoud, Abdul Salam Idris, Rafal Talal), and approving English thesis writing for Mathematics students.

IV. Scientific Symposiums

1. **"Artificial Intelligence: A Gateway from Present Challenges to Future Sustainability"** (Feb 12, 2025). Explored AI in simulation environments for education, healthcare, and urban planning.
2. **"Combating Extremism and Misinformation Among Students"** (March 11, 2025). Organized by the Educational Counseling Division to address social stability and digital verification.

V. Workshops (Scientific & Technical)

1. **"Drone Applications in Scientific Research"** (Feb 4, 2025): Focusing on UAV solutions in industry, agriculture, and environment.
2. **"Globalization and its Impact on Women's Leadership of the Family"** (Feb 6, 2025): Addressing cultural identity amidst social changes.
3. **"Logo Design Using Photoshop"** (Feb 9, 2025): Graphic design skills for the labor market.
4. **"Choosing the Right Journal for Publication"** (Feb 10, 2025): Guiding researchers to avoid predatory journals.
5. **"Constrained Optimization in Operations Research"** (Feb 18, 2025): Improving decision-making and resource allocation.
6. **"Using io.draw in Scientific Research"** (Feb 24, 2025): AI tools for document formatting and paper preparation.
7. **"Secure Yourself" (Cybersecurity Awareness)** (Feb 24, 2025): Enhancing digital security and verifying information.
8. **"Sustainable Development as a Pillar to Curb Illegal Migration"** (Feb 25, 2025): The role of development and AI in economic stability.
9. **"National Accreditation Standards for Science Programs"** (Feb 25, 2025): Aligning curricula with labor market needs.
10. **"Corporate Cybersecurity: Building Walls of Trust"** (Feb 26, 2025): Protecting institutions in a connected world.
11. **"The Role of AI in Statistical Analysis"** (March 4, 2025): Enhancing accuracy and discovering hidden patterns.
12. **"Disability Awareness: Dealing with People of Determination"** (March 4, 2025): Promoting equality and inclusion.
13. **"Psychological Engineering and Women Empowerment"** (March 23, 2025).
14. **"Analyzing and Improving Artificial Intelligence"** (March 25, 2025): Focusing on predictive modeling.
15. **"Role of Technology in Developing E-Management Skills (MS Word)"** (May 19, 2025): Digital transformation in administration.
16. **"Inclusive Integration for Special Needs in Education"** (Dec 3, 2025): Creating equitable educational environments.
17. **"Study Stress and Exam Preparation"** (Dec 14, 2025): Psychological guidance for students.

VI. Professional Training Courses

1. **"Future Skills: IoT and AI Solutions"** (Feb 9, 2025).
2. **"UML in Software Development"** (Feb 9, 2025).
3. **"LaTeX for Academic Documents"** (Feb 16, 2025).
4. **"AI in Software Testing"** (Feb 16, 2025).
5. **"Administrative Corruption and Amnesty Laws"** (Feb 23, 2025).
6. **"CV Writing Skills"** (Feb 26, 2025).
7. **"Sample Size Determination in Epidemiological Studies"** (Feb 9-13, 2025).
8. **"Fuzzification of Volterra Integral Equations Using Maple"** (Sep 21, 2025).
9. **"Developing Administrative Skills in E-Management"** (Sep 28 - Oct 2, 2025).
10. **"Microsoft Word Fundamentals"** (Oct 5, 2025).

VII. Visits & Institutional Activities

1. **IT Deans Committee Meeting:** Hosted by the college to discuss curriculum development (Feb 3, 2025).
2. **University President Visits:** Attended Ph.D. defenses (Zeina Talal, Zainab Muayad) and reviewed accreditation preparations (Feb 6, Feb 17, Feb 26, 2025).
3. **Ministerial Accreditation Team:** Field assessment of quality standards (Feb 17-18, 2025).

VIII. Community Service

- **Athar Foundation Visit:** Faculty and staff visited the cancer support foundation to provide donations (Feb 12, 2025).

IX. Lectures & Seminars

1. **"Improving Geographically Weighted Poisson Regression Estimation"** (Feb 2, 2025).
2. **"Generalizing Exponential-Pareto Distribution Using Ranked Set Sampling"** (Feb 2, 2025).
3. **"Estimating Survival Function for Neutrosophic Distributions"** (Feb 9, 2025).
4. **"Parameter Estimation Strategies for Stochastic Processes"** (Feb 9, 2025).
5. **"Viral Infection: Causes and Solutions"** (Feb 10, 2025).
6. **"Wavelet Diagnosis Efficiency for Seasonal Time Series"** (Feb 16, 2025).
7. **"Multilevel Regression Analysis"** (Feb 16, 2025).
8. **"Health Hazards of Computer Use"** (Feb 18, 2025).
9. **"Using Microsoft Sway"** (Feb 19, 2025).
10. **"Women's Role in Data Collection"** (Feb 20, 2025).
11. **"Longitudinal Data Analysis for Student Performance"** (Feb 23, 2025).
12. **"Fuzzy Logic for Panel Data Time Series Diagnosis"** (Feb 23, 2025).
13. **"First Aid Awareness"** (Feb 25, 2025).

14. **"Modeling Using Fuzzy Logic"** (Feb 27, 2025).
15. **"Statistical Analysis: Women's Key to Understanding the World"** (Feb 27, 2025).
16. **"Islamic Perspective on Women's Work"** (Feb 27, 2025).
17. **Algebra Seminar:** "Study of Certain Types of Pure Rings" by M.Sc. student Khidr Juma Khidr (Dec 1, 2025).

X. Scientific Publications

- **Guidebook:** "Generative Artificial Intelligence and its Utilization in Scientific Research and Education."
  - o **Authors:** Prof. Dr. Duha Bashir Abdullah & Dr. Ibrahim Mohammed Al-Halima (Feb 1, 2025).