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**Academic Background** Cairo University, Faculty of Economics and Political Science (FEPS),  
Giza, Egypt.

- PhD, Department of Statistics, 1999.

Thesis: "**Mathematical Programming Approach to Discriminant Analysis with Application in Demography**"

- MSc, Department of Statistics, 1991.

Thesis: "**Decomposition Methods for Deterministic and Probabilistic Goal Programming**"

- BSc in Statistics (very good with honors), 1985.

**Research Interests** Operations Research, Mathematical Programming, Decision Making, Data Envelopment Analysis, Multicollinearity, Cluster Analysis, Regression Analysis, Selection of Variables, Discriminant Analysis, and Multivariate Analysis.

**Professional Experience**

**Head of Statistics Department**, Faculty of Economics and Political Science, Cairo University. **Aug 2013-Present**

**Professor**, Department of Statistics, Faculty of Economics and Political Science, Cairo University. **Jan 2013-Present**

**Associate Professor**, Department of Statistics, Faculty of Economics and Political Science, Cairo University. **May 2007-Dec 2012**

**Research Professor**, Social Research Center, American University in Cairo (AUC). **Aug 2001-Present**

**Assistant Professor**, Department of Statistics, Faculty of Economics and Political Science, Cairo University. **May 1999-April 2007**

**Assistant Technical Director** of the Demographic and Health Survey, EL-Zanaty & Associates Studies, Research & Consultations. **May 1999-Dec 1999**

**Assistant Lecturer**, Department of Statistics, Faculty of Economics and Political Science, Cairo University. **Sep 1991-May 1999**

**Assistant researcher**, National Population Council. **May 1987-Nov 1987**

**Instructor**, Department of Statistics, Faculty of Economics and Political Science, Cairo University. **Dec 1985-Sep 1991**

**Courses Taught** Introductory Statistics, Applied Statistics for Social Sciences, Applied Statistics for Economics, Operations Research1, Operations Research2, and Mathematical Programming in Statistics.

**Publications** **El-Hefnawy, A.**, and Farag A., (2014), A Combined Nonlinear Programming Model and Kibria Method for Choosing Ridge Parameter Regression, Communications in Statistics - Simulation and Computation, Volume 43, Issue 6, pages 1442-1470.

Hamed R., **El-Hefnawy A.**, and Farag A., (2013), Selection of the Ridge Parameter Using Mathematical Programming, Communications in Statistics - Simulation and Computation, Volume 42, Issue 6, pages 1409-1432.

Hamed R., **El-Hefnawy A.**, and Ramadan M., and Ismail E., (2012), Mixed Integer Nonlinear Programming Approach to Variable Selection in Clusterwise Linear Regression, The 24th annual conference on statistics & modeling in human and social Sciences, Faculty of Economics and Political Science, Cairo University, Egypt, 13-25.

El Dash A., **El Hefnawy A.**, and Hafez, N., (2011), A Mathematical Programming Approach for Solving Nonmetric Multidimensional Scaling Problems, The 46th Annual Conference on Statistics, Computer Sciences and Operations Research, Institute of Statistical Studies and Research, Cairo University, Egypt, 88-103.

**Publications  
(Cont')**

El Dash A., **El Hefnawy A.**, and Farghali R., (2011), Goal Programming Technique for correcting Multicollinearity Problem in Multinomial logistic regression, The 46th Annual Conference on Statistics, Computer Sciences and Operations Research, Institute of Statistical Studies and Research, Cairo University, Egypt, 72-87.

El Dash A., **El Hefnawy A.**, and Farghali R., (2011), Treating Multicollinearity Problem Using Goal Programming Technique, The Egyptian Statistical Journal, 55, 2, 67-92.

Hamed R., **El-Hefnawy A.**, and Ramadan M., (2010), Non-linear Goal Programming Approach to Targeting the Poor, The 2nd ISIBALO Young Statisticians Conference "Durban to Dublin: Doubling the Young African Statisticians Efforts", South Africa, December 2010.

Hamed R., **El-Hefnawy A.**, and Ramadan M., (2010), Non-linear Goal Programming Approach to Clusterwise Logistic Regression Model, Tenth Islamic Countries Conference on Statistical Sciences ICCS-X., 652-663.

Hamed R., **El-Hefnawy A.**, El-Ashram M., and Abdalla H.,(2009), Possibilistic Logistic Regression Model with Minimum Fuzziness, 5th Asian Mathematical Conference Proceedings (Volume III), June 2009, pp 621 - 628.

Hamed R., **El-Hefnawy A.**, and Ramadan M., (2009), Logistic Regression Using Non-Linear Goal Programming, The 21st annual conference on statistics & modeling in human and social Sciences, Faculty of Economics and Political Science, Cairo University, Egypt, 125-137.

Hamed R., **El-Hefnawy A.**, El-Ashram M., and Abdalla H.,(2009), Fuzzy Logistic Regression: A Goal Programming Approach, The 21st annual conference on statistics & modeling in human and social Sciences, Faculty of Economics and Political Science, Cairo University, Egypt, 52-71.

Hamed R., **El-Hefnawy A.**, El-Ashram M., and Abdalla H.,(2008 ), Fuzzy Logistic Regression: A Multi-objective Programming Approach, The 44th Annual Conference on Statistics, Computer Sciences and Operations Research, Institute of Statistical Studies and Research, Cairo University, Egypt, 62-78.

**Publications  
(Cont')**

El-Kasabi M., El-Tawila S., and **El-Hefnawy A.**, (2007), Non-coverage Bias in Telephone Surveys in Egypt, The 19th annual conference on statistics & modeling in human and social Sciences, Faculty of Economics and Political Science, Cairo University, Egypt, 225-250.

**El-Hefnawy A.**, and Hassan R., (2006), Data Reduction Using Discrete Wavelet Transform in Data Envelopment Analysis: The Efficiency of Literacy Classes, Faculty of Commerce, Tanta University, Egypt.

El Dash A., Hamed R., **El Hefnawy A.**, and El Sayed R., (2006), Goal Programming Three-Level Data Envelopment Analysis Model: Measuring the Efficiency of the Egyptian Electricity Production Companies, The 18th annual conference on statistics & modeling in human and social Sciences, Faculty of Economics and Political Science, Cairo University, 133-154.

**El-Hefnawy A.**, (2006) , Mixed Integer Goal Programming Approach to Variable Selection in Linear Regression, The 18th annual conference on statistics & modeling in human and social Sciences, Faculty of Economics and Political Science, Cairo University, 114-132.

Hamed R., **El-Hefnawy A.**, and Gomaa A., (2005), Mathematical Programming Approach for Variable Selection in Discriminant Analysis: an Environmental Application, Faculty of Commerce, Ein Shams University, Egypt.

Hamed R., **El-Hefnawy A.**, and Gomaa A.,(2003) Selection of Variables in Discriminant Analysis Using Mathematical Programming Approach, The 38th Annual Conference on Statistics, Computer Sciences and Operations Research, Institute of Statistical Studies and Research, Cairo University, Egypt,115-131.

Selim, K., and **El-Hefnawy, A.**, (2000), Survey of mathematical programming models to two group discriminant analysis, The Egyptian Statistical Journal.

**Publications (Cont')** El-Zanaty, F., Selim, K., and **El-Hefnawy, A.**, (1998), Chance-constrained goal programming approach to two group discriminant analysis, The 10 th annual conference on statistics and computer modeling in human and social Sciences, Faculty of Economics and Political Science, Cairo University, Egypt.

Makary, N., El-Dash, A. and **El-Hefnawy, A.**, (1992), An analytic iterative goal programming (AIGP) algorithm for small & large scale problems, the proceedings of the fourth annual international conference of CICS, Faculty of Economics and Political Science, Cairo University, Egypt, 47-63.

**Supervising PhD Thesis** **Using Multiobjective Programming to Correct the Collinearity for Logistic Regression Analysis with Application**, Department of Mathematics, Insurance and Applied Statistics, Faculty of Commerce and Business Administration, Helwan University, 2012.

**Mathematical Programming Approach to Generalized Clusterwise Logistic Model and its Application in Targeting the Poor**, Department of Statistics, Faculty of Economics and Political Science, Cairo University, 2009.

**Possibilistic Logistic Regression in Fuzzy Environment**, Department of Statistics, Faculty of Economics and Political Science, Cairo University, 2009.

**A Fuzzy Genetic Approach for Solving Location Problems with Application to Security Patrols Services in Cairo Governorate**, Faculty of Computers & Information, Cairo University, 2013

**Supervising MSc Thesis** **An Allocation Model for Locating Literacy Classes**, Department of Statistics, Faculty of Economics and Political Science, Cairo University, 2013.

**Selection of the Ridge Parameter using Mathematical Programming**, Department of Statistics, Faculty of Economics and Political Science, Cairo University, 2012.

**A Mathematical Programming Approach to Variable Selection in Clusterwise Linear Regression**, Department of Statistics, Faculty of Economics and Political Science, Cairo University, 2012.

**Supervising  
MSc  
Thesis (Cont')**

**A Regression Mean Estimator Based on Weights from Auxiliary Variables Using Mathematical Programming**, Department of Statistics, Faculty of Economics and Political Science, Cairo University, 2012.

**A Mathematical programming Approach to Metric multidimensional Scaling**, Department of Statistics, Faculty of Economics and Political Science, Cairo University, 2011.

**A Mathematical Programming Approach for Non Metric Multidimensional Scaling**, Department of Statistics, Faculty of Economics and Political Science, Cairo University, 2011.

**A Mathematical Programming Approach to Multinomial Logistic Regression**, Department of Statistics, Faculty of Economics and Political Science, Cairo University, 2009.

**Handling Noncoverage Bias in Telephone Surveys in Egypt**, Department of Statistics, Faculty of Economics and Political Science, Cairo University, 2008.

**Multi-Level Data Envelopment Analysis Model**, Department of Statistics, Faculty of Economics and Political Science, Cairo University, 2006.

**Data Reduction in Data Envelopment Analysis**, Department of Statistics, Faculty of Economics and Political Science, Cairo University, 2005.

**Selection of Variables in Discriminant Analysis Using Mathematical Programming Approach with an Environmental Application**, Department of Statistics, Faculty of Economics and Political Science, Cairo University, 2004.

**Work in  
Progress**

- **Supervising PhD Thesis**

**Analytic Hierarchy Process for Group Decision Making Problems with Application in the Energy Sector in Egypt**, Department of Statistics, Faculty of Economics and Political

Science, Cairo University.

**Selection of Ridge Parameter to Restricted Regression Using Mathematical Programming Approach**, Faculty of Commerce, Benha University.

- **Supervising MSc Thesis**

**Stochastic Multi-Level Data Envelopment Analysis**, Department of Statistics, Faculty of Economics and Political Science, Cairo University.

**Outliers in Data Envelopment Analysis**, Department of Statistics, Faculty of Economics and Political Science, Cairo University.

**A Mathematical Programming Approach to Variable Selection in Logistic Regression**, Department of Statistics, Faculty of Economics and Political Science, Cairo University.

**Consulting Experience**

**Research Professor of Statistics** at Social Research Center, American University in Cairo, **Aug 2001-Present**

Assessing the Regulation of the Private Health Sector in the Eastern Mediterranean Region, Social Research Center of The American University in Cairo (AUC/SRC), World Health Organization Eastern Mediterranean Regional Office (WHO/EMRO), 2013.

The Research Program to Salheya Initiative for Women Economic Empowerment, Social Research Center, American University in Cairo, 2012 -2013.

Impact Evaluation of the Netherland Assisted Drinking Water Supply and Sanitation programmes in Egypt, Fayoum Governorate 1990-2007, AIID, 2008- 2010.

Socio-Economic Impact of the West Nubaria Rural Development Project, 2008.

In a study of the needs assessment of the slum areas for reproductive health services, 2004, Faculty of Economics and Political Science in

**Consulting  
Experience  
Cont')**

association with The National Population Council.

The project “Supporting, Monitoring & Evaluating Female Illiteracy eradication effort in Egypt”. A GIS system for El Fayoum Governorates was developed for the purpose of defining the distribution of the illiteracy within the of El Fayoum at the village level.

Evaluation of Capacity Enhancement Lifelong Learning (CELL) Project in Upper Egypt, 2004.

Assessment of Using IT in Literacy, Social Research Center and Ministry of Communications and Information, 2004.

Integrated Health and Literacy Research, A Collaborative Study between World Education and Social Research center, Cairo and Giza, 2003.

The Research Program to Support, Monitor and Evaluate Female Illiteracy in Egypt, Social Research Center, American University in Cairo, 2002-2007.

Developing Data Base and GIS for Illiterates in Fayoum, NCW and SRC, 2002.