

# Curriculum vitae

**Name:** Essam Mohamed Zaki Al- Kosheiry  
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## **About Me:-**

I'm 18 years experience in software industry I'm specialized in Team management ,Arabic language Software technologies ,OCR (optical character recognition ) , ICR (Handwritten Character recognition),Content management , Search engines ,software development, digital image processing, Machine Learning and computer vision, with a proud record of achievements in the technical leadership of these areas.

Currently, I'm OCR department manager I'm managing OCR team, we do research and development of software's including invention, design, development, optimization and implementation of image-based solutions to meet the smart needs of modern institutions.

## **Personal Data:-**

**Name:** Essam Mohamed Zaki Al- Kosheiry

**Date of Birth:** May 15<sup>th</sup>, 1974.

**Nationality:** Egyptian.

**Home Telephone:** 002 0235719304

**Mobile:** 002 0101690521

**Military status:** Completed (1/12/1999).

**Marital status:** Married

## **Undergraduate Education:-**

**High school:** Al- Saidia Military School (1991-1993)

**University:** Helwan University

**Faculty:** Faculty of Engineering (1994-1998)

**Department:** Electronic and Communication department

**B.Sc.'s year degree:** Good (73.6%)

**General Graduation degree:** Good (73.12%)

**Project Name:** Designing Computer Network for Helwan University

**Project Degree:** Very Good

The target of the project is to design and implement WAN(Wide Area Network) which can connect all offices in Helwan university , by finding the best hardware which can connect all offices with maximum performance and minimum cost.

## **Postgraduate Education:-**

**University:** Helwan University

**Faculty:** Faculty of Engineering

**Department:** Computer department

**Master degree M.Sc:** (2002-2005)

**Master Research area:** Image processing and Arabic handwritten recognition

The target of my master thesis is to develop an handwritten recognition engine , I had used some image processing techniques to remove noise and normalize the input image such as Binarization , Noise remove , skew and slant correction,..., The developed system takes an the processed image as input ,the try to detect the text blocks then segment the text blocks into lines then the lines segmented into words then the words segmented into characters then the characters are recognized by using some machine learning techniques ,the image document is written in Arabic , then this image is converted to processed text , in this thesis a new segmentation method is developed , the segmentation depends on TDNN (Time delay Neural Network) TDNN gives output depending the previous history, I had used a lot of neural network to recognize the text also the output text are corrected by using spell checking and correction also some NLP (Natural Language Processing ) such as Unigrams , Bigrams and Trigrams, the final result is the text you can save in small size and search very fast or build a lot of applications depend on that text .

## **Publications**

1-M.Eladwy and Essam M. zaki ."Fast skew and slant correction for Arabic handwritten word or line " . In proceedings of 3rd STCEX (Third Saudi Technical Conference and Exhibition), December 2004.

2- M.Eladwy and Essam M. zaki ." Segmentation of Arabic written using Time Delay Neural Network (TDNN) ".In Proceedings of ACIDCA-ICMI'2005.

## **Technical Skills:**

### **Programming Languages**

-C/C++ and STL Expert

-COM and ATL Intermediate

-C# and .Net developing Expert

-Windows Programming Using MS Visual C++ 6.0/.NET 2003/2005 (unmanaged) (Win32API/MFC) Expert.

-Visual Basic 6

-Intel 8086 Assembly Intermediate

### **Database tools**

-SQL , MySQL and Microsoft Access

### **Web Programming**

-ASP.NET,HTML,XML , JavaScript

### **Tools and IDEs**

-Microsoft Visual C++ 6.0/2003/2005/2008/2010/2015/2017 Expert

-Microsoft Visual C#.NET

-Microsoft Visual Basic 6.0

-DevPartner (Bound Checker)

-Vtune

-Database Management Systems DBMS

-Microsoft SQL Server 2000 Intermediate

-Microsoft Access 2000, XP, 2003 Intermediate

### **Operating Systems**

-Windows 95/ ME/Windows XP Professional/2000 /2003 Server/windows7/windows Server 2008/Windows Server 2012/ Windows Server 2016

### **Other**

-MATLAB

-Microsoft Office 97/2000/XP/2003 /2007/2010

-NeroSolutions (for neural network design)

-IBM Rational rose

-NeuralWorks (for neural network design)

### **Theoretical knowledge:**

Deep understanding of the Object Orientation Concepts.

Main research area in Pattern recognition and machine learning.

Deep understanding in image processing techniques.

### **Languages:-**

**Arabic:** Mother Tongue

**English:** Fluent Written & Spoken.

### **Personal Skills:-**

- Ability for problem analysis & solving.

- Work under pressure and time constrains.

- Ability to work within teamwork or individual.

### **Work Experience:**

**- Department manager/Software Development manager at Sakhr software Egypt from 7/10/2011 till now**

#### Job Description

- Plan and track project budget, cost, expenses and profitability realization.
- Review and prepare financial estimates and proposals.
- Review program/projects progress with other team members.
- Research for new features that can be added in OCR.
- Put the plane and design for the added new features.
- Enhance current OCR modules.
- Manage the work distribution for other team members.
- Hire the required members to achieve the project plan.
- Do the train for the new members to start our project plan.

**- Project manager at Sakhr Software Egypt From 6/2006 to 6/2010**

#### Job Description

- Member in OCR department most of time, and member in Search Engine department for 3 month.
- Joined search engine team to enhance stability of SAKHR search engine (IDRISI).
- Research for new features that can be added in OCR.
- Build new OCR engine for handwritten digits.
- Design new OCR engine for Low Quality and faxed images.
- Enhance current OCR modules.
- Manage the work distribution for other team members.

**-Business Development manager + Support Manager at Sakhr Software USA from 11/2005 to 5/2006**

#### Job Description

- Establish Sakhr USA branch with cooperation with G. William Miller United States Secretary of the Treasury under President Carter.
- Attend technical conferences in USA and represent our research direction.
- Build and train support team in USA.
- Support our customers in USA to use Sakhr products.
- Build cooperation with USA companies and find new investors.
- Find companies and places which can fund Sakhr researches

**-Senior Programmer at Sakhr Software Egypt from 1/5/2004 to 1/5/2005**

#### Job Description

- Member in Sakhr Automatic Reader (OCR) team
- Enhance current OCR modules.
- Building SDK and SDK samples.
- Implement tools to speed up developing cycle such as (Accuracy measure, Automatic train, Automatic build train data, statistics tools...)

## -Software Testing Engineer at Sakhr Software Egypt from 1/1/2000 to 5/2004

### Job Description

- Develop test strategy and build the test plain.
- Makes sure that testing time and check points are reflected properly in project plan.
- Attend in Design Review meeting
- Provide a detailed Test Plan for Black box testing and white box testing.
- Design and implement testing tools to cover all test plan points.
- Use some scripting tools such as IBM Rational Rose to build test application for black boc testing.
- Use c,c++ and c# to build test automated test applications.

### **Samples of projects i have shared design and implementation**

Project	Description	Tool/Technology
Sakhr Automatic reader (OCR)	An OCR (optical character recognition engine) that program used to convert scanned documents into processed text format  <a href="http://www.sakhr.com/products/OCR/Default.aspx?sec=Product&amp;item=OCR">http://www.sakhr.com/products/OCR/Default.aspx?sec=Product&amp;item=OCR</a>	C++ / MFC / COM C#
Sakhr Search Engine (IDRISI)	Intelligent Document Retrieval and Information Search for Internet (Idrisi) is a bilingual search engine for documents, Corporate databases (ODBC compliant), and Websites  <a href="http://www.sakhr.com/products/Idrisi/Default.aspx?sec=Product&amp;item=Idrisi">http://www.sakhr.com/products/Idrisi/Default.aspx?sec=Product&amp;item=Idrisi</a>	C++/MFC/COM
SOCRAT	System for Offline Character Recognition of Text provides a solution for the segmentation of the Arabic words that form an important part of Arabic Handwriting OCR.  This project is done as research project during my master  <a href="http://www.ciyasoft.com/solution#s3">http://www.ciyasoft.com/solution#s3</a>	C++/MFC
ARISTOW	Automatic Retrieval and Intelligent Search Technology using Optical Words is a state of the art application developed to quickly search inside printed and handwriting Arabic and English images.  This project is done as research project during my master  <a href="http://www.ciyasoft.com/solution#s2">http://www.ciyasoft.com/solution#s2</a>	C++/MFC

Egyptian ID Reader	This application used to read Egyptian National ID optically, it captures the image of ID then recognize it using OCR and can be used in any security check or application filling forms.	C++/C#
Sakhr ID Reader	This library used to read business cards or national IDs using OCR Optical Character recognition	C++/C#
OMR Recognition	This module used to read multiple choices answers	C++/c#

### **Samples of Our clients and project**

-One Million Book project launched by Alexandria Library in Egypt Bibliotheca Alexandrina (BA)

<https://www.bibalex.org/isis/frontend/projects/ProjectDetails.aspx?id=//3r+dP2wp23h6ShocDoYg==>

- Document archiving system for Qatar Embassy in USA
- Document archiving system for Ministry of defense in Algeria
- Millions of images digitizing for Pentagon in USA.
- Digitizing Arabic books in Yale University in USA.
- Workflow using some of our products such as text to speech and OCR.
- Archiving bank documents in Central bank of Kuwait.
- Archiving system in League of Arab Stats in Cairo office

### **Achievements**

Obtained master in Machine Learning in parallel of my success work

Developed best Arabic handwritten engine

Developed OMR system

Developed best Arabic OCR in the market

Shared developing most of successful products in Sakhr software

Manage large team successfully

Manage small team successfully

Worked alone successfully