

# CURRICULUM—VITAE



## Personal Information

**Name:** Saad Daoud Sulaiman

**Date of Birth:** 13/8/1952

**Place of Birth:** Mosul

**Nationality:** SUDANESE / IRAQI

**Marital Status:** Married –children (3)

**Languages:** Arabic  
English  
French

**Present Address:** Sudan/Khartoum

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Engineering College/Head of Biomedical Department  
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## Education

1-**Doctorate in Computer** (Docteur d'ingénieur)

University Paul Sabatier/Toulouse\France----1982

Thesis Title: "Design and implementation of Multi-Microprocessors system for real Time treatment of Continuous flow of data"

2-**Master of Science in Computer**

Ensica/Toulouse\France----1980

Thesis Title:" Design and implementation Time sharing operating system for IBM370 computer"

3-**Diplome of Deep Study in Computer** (DEA)

University Paul Sabatier/Toulouse\France---1979

Dissertation: "Connecting 255 terminals to main computer serially"

3-**B.Sc in Electronic engineering**

Dissertation:"separation of signal from white noise"

Mosul University/Iraq –1975

## Scientific Titles

1-**Scientist Grad (B)** According to Iraqi Scientist Care Law—2002

- 2-**Assistant Professor** –1990
- 3-**Head of Researchers (Professor)** According to Qualification Law for Research Centers—2000
- 4-**Professor** in Sudan University--2005

## Working Places

- 1-Technical College –Baghdad\Iraq (lecturer)—1983
- 2-Research & Development Committee-Baghdad\Iraq—1988  
(Director of Electronic & Computer Centre)
- 3-Mosul University\Iraq –2000  
(Lecturer & supervisor for M.Sc, PH.D)
- 4-Al Kindy Company for Research & Development –Mosul\Iraq—1997-2003  
(Director General)
- 5-Sudan University of Science & Technology  
Engineering College/Head of Biomedical Department  
(Professor) ---since 2005

## Accepted Papers

- 1-"ADVANCED TRENDS IN BIOMEDICAL ENGINEERING"  
**KBIE-2011 University College of Bahrain**  
**08-10 January 2011**

## Submitted Papers

- 1- HEART SOUND AS A PHYSIOLOGICAL BIOMETRIC SIGNATURE  
5th Cairo International Conference on Biomedical Engineering  
**CIBEC 2010, DECEMBRE 16-18 2010 CAIRO, EGYPT**
- 2- "Arabic Braille Recognition and Transcription into Text and Voice",  
5th Cairo International Conference on Biomedical Engineering  
**CIBEC 2010, DECEMBRE 16-18 2010 CAIRO, EGYPT**

## Researches & Applied Projects

- 1- A PC Based Electronic Stethoscope with Analysis and Diagnosis Capabilities  
E-MediSys 2010 –IEEE, E-Medical Systems, Fes 12-4 may 2010 –Morocco
- 2- Upgrading of Classical X-RAY medical devices toward digital devices  
WICE-2010, World International Conference on Education, Amman-Jordan
- 3-Encoded voice transmission via optical fiber link  
Journal of research centre, industrial engineering and consulting  
Sudan/Khartoum-2008
- 4-Analysis and diagnosis of Heart Sounds  
Sudan Medical Monitor, Volume 3, No.4-Novembere 2008

- 5-A microcontroller Based Thermal Braille Code Implementation  
(13th International conference on Biomedical Engineering (ICBME2008))  
Singapore-2008
- 6-Blind assistance for Arabic text reading based on thermal sensing  
Patent Number 1596 -2008 –Sudan/Khartoum
- 7-Health Information Management System  
Medical Management system forum –Khartoum-2008
- 8-Development trends in Biomedical Engineering  
(The first Biomedical engineering Forum)  
Sudan/Khartoum –2007
- 9- Radar Simulator Using PC & Matlab, Simulink  
(International Radar symposium, IRS)  
Krakow/Poland---2006
- 10-Implementation of a real time adaptive MTI system using  
Hardware & matlab simulink ---- Jordan/2006/philadelphia University.
- 11-Data Base for Speaker Voice Recognition  
Amman/Jordan—2004
- 12-PC Based Radar Simulator  
IEEE 2005 /China—2005
- 13-High Speed Acquisition through PCI Bus  
Al Rasheed University/Baghdad/Iraq --2003
- 14-PC Based Navigation system  
Mosul/Iraq—2002
- 15-Mixing of Many Radar Signals on one Indicator  
Baghdad/Iraq---1986
- 16-Processing & Transmission of Radar Signal through Telephone line  
Baghdad/Iraq—1986
- 17-Real Time Processing of Continuous Flow of Data  
University Paul Sabatier/Toulouse/France---1981
- 18-Matlab Implementation of MTI Phase Detector  
Syria—2006
- 19- Radar Area MTI  
Baghdad/Iraq—1984
- 20-PC Based Telephone Exchange System for 1000 Lines  
Mosul/Iraq---2001
- 21-Three Dimension Instrumentation System  
Mosul/Iraq—2000
- 22-MTI System for Moving Platform  
Mosul/Iraq---2002
- 23-Improvement of Receiver Immunity through Automatic constant Variation  
Bagdad/Iraq—2000
- 24-PC Based AGC (Automatic Gain Control)  
Baghdad/Iraq—2001
- 25-Three Dimension Tracking System  
Baghdad/Iraq—2000
- 26-FFT (Fast Fourier Transform) MTI System  
Mosul/Iraq—2001
- 27-Automatic TV-Tracker  
Mosul/Iraq—2002
- 28-Bi-Static Tracking System

- Mosul/Iraq—2001
- 29-wireless Command System  
Baghdad/Iraq—2000
- 30-Protocol Converter  
Mosul/Iraq—2001
- 31-Improvement of Receiver Detection through Coherent integration  
Baghdad/Iraq—2000
- 32-Automatic Synchronization of Radar Display to Real North  
Bagdad/Iraq—1984
- 33-Cancellation of Movement Effect for Moving Platform Radar  
Baghdad/Iraq—1989
- 34-Real Time radar Extractor  
Baghdad/1986
- 35-Passive Detection System  
Mosul/Iraq—2002
- 36-Control System for Railway station  
Baghdad/Iraq—2001
- 37-Bi-Static Detection System  
Mosul/Iraq—2000
- 38-Side Loop Cancellor  
Mosul/Iraq—2002

## **Present Academic Activities**

### 1-Sudan University of Sceince & Technology

#### **1-1 Lecturer for the Following Courses (B.Sc Level)**

- 1-OOP (C++ programming#)
- 2-Sensors & Transducers
- 3-computer Architecture
- 4-Assembly Programming
- 5-Digital Image Processing
- 6-Data Structure
- 7-Computer Network
- 8-Designe of Biomedical Devices
- 9-Electrical Instrumentation
- 10- Computer interfacing
- 11-Digital Signal Processing
- 12-Microprocessor /Microcontroller/DSP System
- 13-VHDL (Very high speed Hardware Descriptive Language)
- 14-Hospital information system (HIS)
- 15-Computer Based Patient Record (CBPR)
- 16-PLC Applications
- 17- Real Time Data Acquisition & Monitoring

18- Real time encryption system (Voice, Data)

1-2 **Supervision of the Following Final Year Project (B.Sc Level)**

- 1-Digital Image processing for Malaria detection—2008
- 2-Microcontroller based Prosthesis system based on EMG signal—2008
- 3-Hospital Information System (HIS)—2008
- 4-Data reduction Techniques for ECG –2008
- 5-Fetal Monitoring and Recording –2008
- 6-Design of programmed vibrotactile aid for profoundly deaf--2008
- 7-LAN for Patient Monitors Units-2006
- 8-Acquisition & Measurement of Pressure Signal--2006
- 9-Acquisition & Measurement of Temperature--2006
- 10-Acquisition of ECG Signals--2006
- 11-Acquisition & Measurement of Respiratory Parameters--2006
- 12-X-Ray Sensing--2006
- 13-Data Exchange between Two Computers through Parallel Port--2006
- 14-Data Exchange between Two Computers through Serial Port--2006
- 15-Patient Data Base--2006
- 16-50 HZ Noise Cancellation from ECG Signals--2006
- 17-Electronics Stethoscope--2006
- 18-Oscillometric Blood Pressure--2006
- 19-X-Ray Image Analysis--2006
- 20-Implementation of Digital Image Processing--2006
- 21-Anesthesia Automation--2006
- 22-PC based ECG Analyzer--2007
- 23-Model of The respiratory system using simulink & Mat lab--2007
- 24-Modeling of Cardiovascular function—2007
- 25-Modelin & Simulation of Ultrasound Imaging—2007
- 26-Hospital Data Base-2007
- 27-Snoring Detection-2007
- 28-Blind Reading & Writing Assistance--2007
- 29-Hearing Aids--2007
- 30-Remotly –Monitoring ECG Signals--2007

1-3 **Lecturer of The Following Courses (M.Sc Level)**  
**(Sudan University of Science and Technology)**

- 1-Advanced Computer Architecture
- 2-Advanced Computer Interfacing
- 3-Computer Network
- 4-Digital Signal Processing
- 5-Advanced programming Techniques (C# Application)
- 6-Biomedical information
- 7-Advanced microprocessor and microcontroller

2-Karrari College for Technology/Sudan

## **2-1 lecturer for the Following Courses (B.Sc Level)**

- 1-Digital Image Processing
- 2-Remote Sensing
- 3-Digital speech processing

## **2-2 Supervision of the Final Year Project (B.Sc Level)**

- 1-Implementation of Digital Image Processing Using C++
- 2-PC Basec Industrial Control System

## **Doctorate Supervision**

- 1-Real Time Graphic System  
Rasheed University /Baghdad/Iraq –2003
- 2-Data Base for Speeker Recognition  
Mosul University/Mosul/Iraq---2002
- 3-Real Time Adaptive MTI (Moving Target Indicator)  
Mosul University/Mosul/Iraq—2004
- 4-Real Time Image Acquisition & recognition  
Sudan University of Sceince & Technology –2005
- 5-Transmission of coded voice via fiper optic  
Sudan University of Science & Technology---2006
- 6-Design & Implementation of low power laser detection system  
Sudan University of Science & Technology --- 2006
- 7-Computer aided Radiography  
Sudan University of Science & Technology --- 2006
- 8-Modern Control for Sugar production Process  
Sudan Academy of Science ----- 2006
- 9-Analysis and design of secure network data communication  
Sudan University of Science & Technology --- 2008
- 10-Designe and implementation of reconfigurable cryptographic engine for Internet  
Protocol Security  
Sudan University of Science & Technology --- 2009

## **Master Supervision**

- 1-GPS System  
Mosul university /Iraq—2000
- 2-Radar Scan Converter  
Mosul University\Iraq—2001
- 3-Synthetic Apparture Radar Processing  
Technical College/Baghdad/Iraq—1986
- 4- Real Time Radar Tracking  
Technical College/Baghdad\Iraq---1987
- 5-Electronic Stethoscope (Heart Voice Analysis for Abnormal Detection)  
Sudan University /Sudan—2005

- 6-Transmission & Encryption of Voice over Fiber Optic  
Sudan University/Sudan---2006
- 7-Distributed Control System  
Sudan Academy of Science/Sudan—2006
- 8-Optimum X-ray Dose  
Sudan University/Sudan---2006
- 9-Real Time Voice Processing & Recording  
Sudan Academy of Science—2006
- 10-Digital Filter Implementation Based on Microcontroller  
Sudan University/Sudan ---2006  
Sudan University/Sudan—2006
- 12-Microcontrolled Based USB interface  
Sudan University/Sudan—2006
- 13-Front End Voice Ciphering  
Sudan University/Sudan—2006
- 14-Data Base Management System for Plant Protection  
Sudan Academy of Science/Sudan---2006
- 15-Real Time Ethernet Controller  
Sudan University/Sudan—2006
- 16-Secured LAN Voice Transmission  
Sudan University/Sudan—2006
- 17-SCADA/DMS Design Optimisation  
University of Algezera/Sudan--2006
- 18-Implementation of embedded wireless LAN based on Microcontroller  
AL-Jazera University /Sudan—2007
- 19-Evaluation of Access Media methods for wireless communication  
Al-Jazera University / Sudan --- 2007
- 20-Computer Interfacing based on FPGA design  
AL-Jazera University/Sudan --- 2007

## **PLC Applications**

- 1-Upgrading of Old Asphalt Plant (Fianova, Barker) of year 1970  
By Adding
  - PLC Control System for Process Automation
  - Replacing mechanical weighing system with electronics (load cell)
- 2-PLC Control System for Railway Station
- 3-Applied Study for PLC Based Sylo project
- 4-PLC Control for Plastic Plant
- 5-PLC Control for Elevator
- 6-PLC Control for Cement Plant
- 7-PLC Based Building Monitoring System

## **Applied Projects in Biomedical Field**

- 1-Acquisition of EEG Signals (Brain Activities) to Computer For Processing & Monitoring
- 2-Acquisition of ECG Signals (Heart Activities) to Computer For Processing & Monitoring
- 3-PC Baesd Sonar System
- 4-Upgrading Classical X-Ray by Replacing Classical Film With Electronics Sensors
- 5-Analysis of Heart Sound

## **Wireless Local Area Network Application**

- 1-Implementation of Wireless Network Using 802.11 Protocols
- 2-Distribution of Internet Services to the Users through the Wireless network

**NOTE:** The above LAN is working now In Mosul /Iraq as Pivate Company & in Mosul University

## **Examiner for Ph.D & M.Sc**

- 1-Solution of Unlimited Variable number equations (Ph.D)  
Sadam University /Baghdad/2000
- 2-PC Based Real Time FFT Processor  
Mosul University/Mosul/Iraq---1989
- 3-Simulation of Moving PlatForm Communication  
Mosul university/Mosul/Iraq—2000
- 4-Coastal Ship Detection  
Technical College /Baghdad—1988
- 5-Development of Programmable Interuupt Controller  
Nuiversity of Algezera/Sudan—2006
- 6-Study & Analysis of Moving Agent on Active Network  
Umdorman university/Sudan—2005
- 7-The Virtual Memory –Sudan University of Science & Technology/2006
- 8-Simulation of Quantum Cryptography Based on EKERT Protocol (PhD)  
Sudan University of Science & Technology ----- 2006
- 9-Automatic Radar Detection (Karrari College)-Ph.D-2007
- 10-Study of real time control system (Sudan University /Engineering College 2007)

## **Training**

- 1-Computer Hardware & Maintenance  
Thomson-CSF /France—1987
- 2-Logic Circuit  
Thomson-CSF /France—1977
- 3-Designe of Programmable Chips from XILINX



- France/1988
- 4-Custum Designe Tools  
England /1989
- 5-Scieintific Projecyts Planing  
Baghdad/Iraq—1999
- 6-ISO  
Mosul/Iraq—2001

## **Field of Experience & Interest**

1. Computer Hardware
2. Computer Interfacing (Serial, Parallel, Usb, Pci...)
3. PC Based Real Time Applications
4. Digital Image Processing
5. Digital Signal Processing
6. Microprocessor/Microcontroller Applications
7. Digital Signal Processor Applications
8. Design & Applications Using FPGA CCT  
XC3000---3000 Gates  
XC4000---5000 Gates  
X2S 50 ---50000 Gates
9. Design Using VHDL (Very High Speed Hardware Descriptive Language)
10. C++ Programming, Visual C++, C#. Visual NET
11. Windows Programming
12. PLC Applications
13. Real Time Data Acquisition & Monitoring
14. Biomedical Instrumentations, Analysis, Diagnostic, Imaging
15. Design of Biomedical Devices
16. SCADA System Applications
17. VOIP (Voice over Ip)
18. Internet Applications
19. Digital Voice processing

## **Other Activities**

- 1-Committee Member for Mosul University Sceintific Conferenec—2002
- 2-Committee Member for Technology Transfer –1987
- 3-Committee Member for Iraqi Railway Upgrading--2001
- 4-Commitee Head for Passive Detection --2002
- 5-Directer General of Al Atta Company (Private)—1991-1994
- 6-Founder Member for Al Mihrab Company (Private) for Internet  
& Communication --2003
- 7-Committee Member for M.Sc Course in Biomedical Engineering  
SudanUniversity--2005

8-Member in Research Council/Engineering College/Sudan University--2005  
9-Member in Profs Council/Sudan University--2005  
10-Member in Research Unit /Engineering College—2006