Holds B. Sc. and M. Sc. in Electrical Engineering and has strong functional knowledge in Electrical Equipment, Instrumentation & Process Automation, gained from more than 10 years of professional experience.

# PERSONAL DATA

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| Nationality | : | Egyptian |
| Gender | : | Male |
| Residence | : | Alexandria |

# EDUCATION

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| : | B. Sc. in Electrical Engineering, Alexandria University, 2006 |
| : | M. Sc. in Electrical Engineering, Alexandria University, 2011 |

# LANGUAGES

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|---|---|---|
| Arabic | : | Native Language |
| English | : | Good |

# COMPUTER SKILLS

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| : | Windows, MS Office, Internet |

# TRAINING COURSES AND CERTIFICATIONS

: Certifications:
- Fundamentals Engineer (FE), National Council of Examiners for Engineering and Surveying (NCEES) (Apr. 2012).
- Principles & Practice of Engineering (PE) – Control Systems, National Council of Examiners for Engineering and Surveying (NCEES) (Oct. 2012).

: Courses:
- Siemens Courses (S7 basic & advanced programming - PCS7 system - WinCC basic - WinCC flexible).
- Wonderware InTouch 2012 (Fundamentals & Advanced).
- PRiSM software.
- PMP preparation.
- Introduction to Integrated Management System (IMS).
- Management of Change (MOC).
- Introduction to MAXIMO 6.2.
- OSHA General Industry Standard.
- Basic & Advanced Air Separation Technology.
- First aid.

- Anoxia.
- Lock Out Tag Out.
- Confined Space.
- Hydrocarbons Safety in ASU.
- Behavioral Safety Visit.
- Oxygen and associated risks.

: Summer training of 3 weeks in GASCO.

: Summer training of 2 weeks in AGIBA Petroleum Company.

# CHRONOLOGICAL EXPERIENCE RECORD

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| **Dates** | : | From Jan. 2013 till now |
| **Employer** | : | Air Liquide, Egypt |
| **Job title** | : | Sr. E&I Engineer (Efficiency Department) |
| **Job Description** | : | |

- Propose & collect efficiency improvement ideas - Evaluate & screen the proposals technically - Develop feasibility study for each - Transform approved proposals into projects & assign tasks to concerned parties - Design of all Instrumentation & Automation related modifications - Develop required Management Of Change documents and participate in related process risk sessions - Develop technical specifications - Evaluate presented proposals - Supervise execution activities - Provide full technical support for all Air Liquide Egypt plants (7 Air Separation Units, 2 $CO_2$ & 1 $H_2$ production units).
- Act as site champion for Predictive Analytics Modeling program, which aims to predict failures to major equipments by creating models for them based on historical data from SCADA and monitor their online performance.
- Led and implemented a reliability enhancement project based on Air Liquide best practices to modify or reduce the total number of trip initiators in ALX3 ASU which affected 120 trip initiators.
- Designed logics for an efficiency improvement project, in ALX1 ASU, for liquid production optimization (Nitrogen, Oxygen & Argon) with a net annual saving of 110 kUSD.
- Programmed logics and monitored performance for an efficiency improvement project, in ALX2 ASU, for Argon production optimization with a net annual saving of 90 kUSD.
- Designed and led an efficiency project in $CO_2$ plant with a net annual saving of 35 kUSD.
- Led a project to deploy SCADA system in 2 remote ASUs with 500 tags per each plant.

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| **Dates** | : | From Aug. 2010 till Dec. 2012 |
| **Employer** | : | Air Liquide, Egypt<br>(world leader in gases for industry, health and the environment) |
| **Job title** | : | Senior E&I Engineer (Maintenance Dept.) |
| **Job Description** | : | |

- Perform electrical/instrumentation preventive & corrective maintenance activities for 3 ASUs (700 loops, LV & MV switchgear for each ASU) - Identify maintenance requirements & recommend standard specifications - Provide full technical support to ongoing efficiency enhancement plans - Participate and support effectively (24/7) in troubleshooting of major

issues in other Air Liquide Egypt plants - Ensure all work activities are complying with QSHE & IMS policies.

- Programmed an adaptive control algorithm developed to achieve minimum venting of gas Oxygen.
- Revamped DCSs of 2 ASUs from Baily Infi-90, to Siemens PCS7. This included reviewing of suppliers' technical proposals, performing Factory & Site Acceptance Tests, commissioning and start-up of plants.
- Established PROFIBUS communication link between DCS and oxygen compressor local control system to get all detailed measurement of compressor into DCS.
- Established PROFIBUS communication link between local DCS and customer DCS.
- Provided root cause and permanent solution for repeated shutdowns arising of bad design of 33KV switchgear of ASU3.
- Implemented SCADA project to collect real time data of 3 ASUs. This included Tag list preparation (1500 tags), network setup and OPC configuration.
- Programmed DCS interlocks & designed HMI graphics for liquid Oxygen backup project.
- Evaluated technical proposals presented to replace 2.6MW medium voltage motor after decision of replacement because of high partial discharge measurement.
- Developed maintenance plan & SOPs (Elec. & Inst.) for ASU3. Performed MAXIMO data collection & entry for ASU3.
- Developed maintenance vulnerability study of ASU3 (E&I).
- Participated in Accident Risk Analysis of ASU3 (E&I).
- Install fixed Oxygen deficiency detectors in confined spaces in 3 ASUs.
- Prepare annual budget (E&I), including operation & capital expenditure (OPEX & CAPEX).

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| **Dates** | : | From Jun. 2007 till Jul. 2010 |
| **Employer** | : | Soulintec - Encon, Egypt (works as a system integrator for Siemens Automation & Drives) |
| **Job title** | : | Project & Automation Engineer |
| **Job Description** | : | • Create control and interlock logics for PLC & DCS systems - Develop of HMI & SCADA visualization - Establish & Configure industrial communication networks - Perform site survey & Prepare technical proposals - Prepare loop drawings - Prepare technical specifications - Lead field technicians - Perform commissioning & start-up – Train technicians & operators. |

- Worked as a DCS Specialist with UHDE GmbH (main contractor of Egyptian Propylene & Polypropylene Company). Plant consists of 7000 normal loops & 1800 safety loops (SIL 2 & SIL 3). Performed loop test, interlocks testing and modification, visualization modification, commissioning & startup of plant. Participated in commissioning of the following subsystems (2 analyzer houses, Atlas Copco & Burckhardt compressors). Established Industrial Ethernet communication between DCS and the following subsystems: (Atlas Copco, Burckhardt, Japan Steel Work, Hydro Service & 2 analyzer houses). Commissioned Hydro Service subsystem.
- Revamped old automation systems of 2 filling machines at ExxonMobil Lube Oil Blending Plant. 3 PLCs, 3 operator interfaces & 350 loops for

each machine.
- Revamped old automation system of Bags making machine (140 loops) at Kobusch - Packaging.
- Revamped old automation system of steel wire rods multi-bending machine (35 loops) at Alexandria Construction Company.
- Assembled, programmed, tested & commissioned of training units for ministry of high education. 500 training sets, each contains: instrumentation, PLC, I/O simulator, HMI, MIMIC & motor with VFD demo units.
- Created PLC program & operator interface for fuel hydrant system in Borg Elarab (HBE) airport (150 loops).
- Solved various troubles in different plants (ExxonMobil, Shell, Dow Chemical, amco foods, Kraft Foods, Carbon Black, Air Liquide, ANRPC, etc.) including investigation of PLC, HMI, instrumentation and network troubles.

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| **Dates** | : | From Apr. 2007 till Jun. 2007 |
| **Employer** | : | Alexandria Company for Refractories |
| **Job title** | : | Instrumentation Engineer |
| **Job Description** | : | Calibrate and maintain of field instrumentation and process recorders. |

Demonstrated achievements in:
- Programming PLCs & DCSs.
- Programming HMIs.
- Deploying industrial networks.
- Project Management.
- Commitment to safety.
- Analytical skills.
- Efficiency/Reliability enhancing.

Publication:
1st Author of paper entitled "Elimination of Reverse Recovery Effects Associated with CoolMOS Devices Employing Current Source Inverter Topology", 6th IET International Conference on Power Electronics, Machines and Drives (PEMD 2012), Conference Paper.