

Holds B. Sc. in Mechanical Power Engineering and M. Sc. in Mechanics of Materials and Computational Design. Has more than 11 years of experience in CFX, FLUENT, FSI, fluid dynamics, thermodynamics, Heat Transfer, CFD combustion and ignition simulation, Finite Elements Analysis, engineering design and analysis.

## PERSONAL DATA

Nationality : Egyptian  
Birth Date : 24/02/1983  
Gender : Male  
Marital Status : Married  
Residence : Currently Turkey

## EDUCATION

- : B. Sc. in Mechanical Power Engineering, South Valley University, 2009
- : M. Sc. in Mechanics of Materials and Computational Design at Girona University, Spain (from Sep. 2012 till Feb. 2014)

## LANGUAGES

Arabic : Native Language  
English : Very Good  
Turkish : Basics

## COMPUTER SKILLS

- : Windows, MS Office, Internet
- : CAD software: Catia V5, Solid Works, Space Claim
- : Progr. Languages: MATLAB, C, Python

## TRAINING COURSES AND CERTIFICATIONS

- : Fundamentals of Fluid-Solid Interactions by École Polytechnique on Coursera.
- : CFD Master class by Simscale.
- : Introduction to Computer-Aided Engineering by Simscale.
- : Corrosion control course under Pikotek supervision.
- : Output only modal and vibration analysis experimentally by using FE software (ANSYS).
- : Participating in a maintenance process for a refinery furnace in CORC.
- : Studying a piping design (on-going).

: PDMS (on-going).

## CHRONOLOGICAL EXPERIENCE RECORD

**Dates** : From Feb. 2018 till now  
**Employer** : REVIVOTECH, Istanbul - Turkey  
**Job title** : Product Development Manager  
**Job Description** :

- Design of a biomechanical device to be mounted in Human Aorta (Aortic stent) in order to increase blood perfusion to a heart failure patient's kidneys.
- Carried out CFD Analysis in order to predict the impact of the installed stent on the flow distribution of all abdominal aortic branches.
- Performed related FEA and fatigue analysis on different stent components of a shape memory alloy (Nitinol) and its reaction with three layers of hyper-elastic material (Aortic artery) under pulsatile pressure.
- Redesigned the stent according to the FEA results to make it safe under pulsatile pressure for around 10 years.
- Served as interface/liaison team member between engineering and business departments for smooth communication and coordination.

**Dates** : From Dec. 2017 till now  
**Employer** : Private Tutors, Istanbul - Turkey  
**Job Description** :

- Instruct engineering university students in subjects including calculus, physics, chemistry, mechanics of materials, and finite element analysis.
- Monitored, assessed, and remediated student performance.
- Identified, selected, and modified resources to meet student's diverse needs.
- Helped struggling student improve Calculus test grades from failing to good.
- Built a good friendship with my students.

**Dates** : From Apr. 2015 till Nov. 2017  
**Employer** : ADVANCED TECHNICAL SOLUTION (ATS), TURKEY  
**Job title** : R&D CFD Engineer  
**Job Description** :

- Design and Manufacture a variety of specialty products for HVAC industry.
- Developed CAD models that support manufacturing preceding intensive virtual computer aided simulation via CFD simulation (ANSYS Fluent/CFX) and FEA packages prior to physical manufacturing and prototyping.
- Designed and developed the concept of the new ATS' PIC (pressure independent control) valve, and carried out its related CFD and FEA analysis.
- Performed related thermo/fluid dynamics analysis and heat transfer calculations.
- Modified old designs for re-testing and installation.
- Carried out related multiphase flow simulation of the new PIC valve and outdoor cooling projects.
- Prepared and monitored a training program for younger engineers.

- Dates** : From Jul. 2013 till Feb. 2014  
**Employer** : GMK ASSOCIATS SLP, Spain  
**Job title** : Internship Vibration Analysis Engineer  
**Job Description** :
  - Carried out numerical and experimental Structural Analysis.
  - Experimental modal analysis.
  - Numerical modal analysis by using ANSYS and Matlab.
- Dates** : From Jun. 2013 till Nov. 2013  
**Employer** : BAC VALVES S.A, Spain  
**Job title** : Project Engineer  
**Job Description** :
  - Revised specifications/data sheets from client and the standards codes.
  - Carried out ball valves selection.
  - Selected working material in accordance with working conditions and design standards.
  - Estimated cost and delivery calculation for related projects.
  - Tackled related technical challenges proposed by client.
- Dates** : From Nov. 2010 till Oct. 2012  
**Employer** : APEX COMPANY FOR OIL FIELD SERVICES & SUPPLIES, Cairo – Egypt  
**Job title** : Technical Support Engineer  
**Job Description** :
  - Managed and monitored supplied Materials compliance with the required specifications and the standards codes.
  - Conducted technical training sessions within the company.
  - Communicated technical challenges facing company's clients.
  - Monitored the installation of supplied materials and components (machines, valves, devices, Fittings) in the fields.
  - Participated in a maintenance process for a refinery furnace in Cairo Oil Refining Company (CORC) (Infrared and thermal testing (IR) for the furnace).
  - Installed a safety valve tester unit at Badr3 field (BAPETCO, Badr El Din Petroleum Company).
- Dates** : From Apr. 2010 till Oct. 2010  
**Employer** : BENAA COMPANY FOR CONSTRUCTION, Egypt  
**Job title** : Field Engineer  
**Job Description** :
  - Scope of work: Establishment of water pumping station and pipeline networks, Toshka, Egypt.
  - Monitored hydraulic calculations and ensured proper pipe level.
  - Checked installation of pump station and pipelines to ensure exact compliance with related drawings.
- Dates** : From Aug. 2009 till Jan. 2010  
**Employer** : ELMASRYA COMPANY FOR HEAVY EQUIPMENTS MAINTENANCE, Aswan – Egypt  
**Job title** : Maintenance Engineer  
**Job Description** :
  - Scope of work: Installation and Maintenance.
  - Diagnosed faulty Equipment.
  - Operated condition vibration analysis.

- Carried out maintenance and repair procedures for mining equipment (excavators, loaders, hydraulic circuits, Diesel engines).

Technical Skills:

- Finite Elements and Volume software:
  - CFX (Multiphase, Combustion, Turbo Machinery, Fluid Solid Interaction FSI).
  - FLUENT (Combustion, Dynamic Meshing, Sliding Meshing).
  - ICE (Internal Combustion Engine) fluent.
  - ANSYS APDL Mechanical Stress and thermal Analysis.
  - ANSYS Mechanical.
  - ANSYS Explicit Dynamics.
  - Modal and Vibration Analysis.
  - ParaView5.4 post processing.
- Combustion:
  - CFD ignition simulation, reaction kinetics and flame stability.
  - Numerical methods and CFD (CFX, Fluent, CANTERA) to estimate the combustion process and combustion products.