AEROSPACE ENGINEER GRADUATE

Skills

Skill	Mechanical engineering
Detailed skills	Systems engineering, Fluid mechanics, Structural mechanics, General mechanics, Mechatronics/Robotics, Engine and turbine, Thermics
Activities	simulation / calculation, Process design / industrialisation , Prototyping, Design, Development, Test & Qualification, Automation, Performance tests, Project management
Sectors	Manufacturing sector

Software	CFX, Solidworks, ANSYS Workbench, Xfoil, NASTRAN, PowerPoint, Excel, Labview, Simulink, Autocad, Primavera
Standards	NX
Methods	FEM (Finite elements method), CNC
Languages	MATLAB, C++

Education - Accreditations - Languages

Education	Kingston University - London - MSc. Aerospace Engineer Notre Dame University - BEng Mechanical Engineering - Liban	***2016*** ***2015***
Languages	English - Fluent (Undergraduate and MSc completed in english, IELTS score : 8/9), French - Native, Arabic - Fluent, Spanish - Basic	

Projects

Kingston University — *2015-09 - 2016-09*

(13 months)

Context : *The modules included:*

- Aerospace Stress Analysis and Advanced Materials
- CFD for Aerospace Applications
- Advanced CAD/CAM Systems
- Engineering Research Techniques, Entrepreneurship and Quality Management
- Aerospace Design Project Dissertation

Subject : *Full thirteenth months MSc. program in London focusing on aircraft design through the use of specialist software such as Ansys, NX, Solidworks and such.*

Position : *MSc. Aerospace Engineering*

Assignments :

- MSc. Aerospace design project: Design a future generation long range transport aircraft that can carry 500 passengers with a target of 20% reduction in fuel burn per passenger mile compared to the A380.
  - This project was carried out by a team of 7 Aerospace graduate students. After initial sizing, the different tasks were split between the members of the group.
  - I was responsible for the parametric sizing, the exterior design of the aircraft and its CAD drawing, the airfoil selection through 2D CFD, external shape optimization through 3D CFD and the selection and location of the high lift devices (Leading and trailing edge flaps). The fuel burn per passenger mile target was reached by designing the aircraft based on the Blended wing body concept (e.g.: Avro Vulcan, Boeing X48-B...) which offers higher lift to drag ratio.
  - I was also responsible for establishing the short term goals and milestones as well as coordinating the work in the team. This was done by creating different communication channels (Slack, Whatsapp...), setting weekly meeting and keeping minutes, keeping the team motivated through one-on-one dialogue.
- Aerospace Stress Analysis
  - Fatigue Assignment: S-N Curve experiments on alluminum alloys and NDT experiments through ultrasonic and magnetic particle methods.
  - FEA Assignment: Optimization of laminate configuration of a stringer stiffened composite panels in NX/Nastran
- CFD for Aerospace Applications
  - Modelling of 3D flow on a rotorcraft blade and turbulence model comparison through Ansys
- Advanced CAD/CAM Systems
  - Reverse surface modelling, mould design and validation through FARO arm and NX
  - Mould machining optimization through NX
- Quality mangement
  - Use of Taguchi matrix in order to optimize the design of a helicopter in terms of blade span, weight and body height.

Achievements :

- Pass with merit

Technical environment	***Software***	CFX, Solidworks, ANSYS Workbench, Xfoil, NASTRAN, PowerPoint, Excel
	Standards	NX
	Methods	FEM (Finite elements method), CNC
	Languages	MATLAB

Notre Dame University — *2010-09 - 2015-06*

(5 years)

Context : *Through its numerous laboratories facilities and large campus grouping civil, electrical, computer and mechanical engineering, Notre Dame University (NDU) has given me a broad yet deep theoretical and practical knowledge of the main engineering disciplines.*
Subject : *General 5 years mechanical engineering curriculum in an american university based in Lebanon, ranking 2nd in the country.*
Position : *BEng Mechanical Engineering*

Assignments :

- BEng Mechanical engineering
  - Structural Stress Analysis
  - Dynamics
  - Science of Materials
  - Fluid Mechanics
  - Electronics / Mechatronics / Robotics
  - Thermodynamics
  - Heat Transfer
  - Computer Aided Design
  - Automated Control
  - Solar Energy
  - FEM
  - Manufacturing
  - Final year design project: Obtain LEED Certification (Green building) for a large shopping mall
- Minor in Engineering Management
  - Project Management
  - Human ressource
  - Accounting
  - Fundamentals of Management
- General Education Requirements (GER)
  - C/C++
  - Psychology
  - Political Science
  - Astronomy
  - Ethics and Leadership
  - History of Lebanon and the Middle East

Achievements :

- Pass with 3.13/4 GPA (B+)