Hicham YOUSSEF

## SKILLS

- **Abaqus, Matlab, Python**
- **Patran Nastran, Workbench, Samcef**
- **Mechanics of deformable solids and structures**
- **Finit Element Analysis**
- **Simulation of process shaping, machining, assembly and processing of metals**
- **Design of experiments**

Updated: September 30, 2019
Youssef.hicham@yahoo.fr

## PROFESSIONAL EXPERIENCES

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| ***12/ 2018 - Present***<br><br>**Freelance trainer.** | **Finit Element Analysis**<br><br>**Abaqus, Patran, Nastran**<br><br>**python Programing (starting and intermediate levels)** |
| ***06/2011 - 12/2018***<br><br>**Aerospace Mechanical engineer.**<br><br>Sogeti HighTech (Capgemini)<br><br>Toulouse 31 and Melun 77 | Optimization of shaping processes by plastic deformation:<br><br>Press forming, Rollforming, Exploforming. Airbus account. A320, Upper cap A350, A320.<br><br>Computational automation. Optimization and parametric studies.<br><br>Abaqus and python trainer<br><br>Tools : Abaqus, Patran, Nastran, HyperMesh, HyperView, HyperForm, Python, Matlab, MS Office |
| ***02/2008 - 05/2011***<br><br>R&D mechanical engineer.<br><br>Laboratoire d'Analyse et d'Architecture de Système (LAAS. CNRS).<br><br>Toulouse (31). | Study of the reliability of micro-electro-mechanical-systems (pressure sensors and micro switches RF). Establishment of technique for mechanical characterization (bulge test)<br><br>Design of a prototype bench measurement of micro-bending.<br><br>Development of finite element models, Mechanical simulations. Optimizations and updating models. Design of experiments (ABAQUS, MATLAB, Design-Expert)<br><br>Design of technological processes and manufacturing samples in clean room<br><br>French and English writing |

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| ***04/2008 - 12/2010***<br><br>Teaching experience.<br><br>Department of Mechanical Engineering. INSA<br><br>Toulouse (31) | Tutorials in **Mechanics**,<br><br>**Matlab** and **Simulink,**<br><br>**Combinatorial logic, sequential logic, pneumatic**. (practical undergraduated courses) |
| ***02/2007 - 07/2007***<br><br>Master internship<br><br>Hutchinson Research Center<br><br>Montargis (45) | Optimization of cold forming process: improvement of the surface finish of aluminum tubes used in automotive air conditioning systems |
| ***03/2006 - 06/2006***<br><br>Bachelor Internship.<br><br>Lacroix Ressort Company<br><br>Meung sur Loire (45). | Automation of spring production line. Design with **Solidworks2006**. **Feasibility and Mechanical studies** |
| ***04/2001 - 06/2001***<br><br>Internship<br><br>Michelin Company<br><br>Saint Doulchard (18). | Improvement of mechanical transmission. **Mechanical testing. Structural design** |

## EDUCATION

***2011*** *:* *Ph.D. "Michro-Electro-Mechanical-System reliability", University Paul Sabatier, Toulouse (31), France.*

***2007*** *:* ***Master's degree in engineering*** *"Material Diagnostics and Simulations"*, University of Orleans (45), France (First class honors)

***2002*** *:* graduated in *Mechanical and production engineering* from the University Institute of Technology ***(****IUT de Bourges (18)).*

## LIST OF PUBLICATIONS

### Publications in scientific journal (peer-reviewed)

- Methods to improve reliability of bulge test technique to extract mechanical properties of thin films. Microelectronics Reliability. 2010

### International Conferences (peer-reviewed)

- Methods to improve reliability of bulge test technique to extract mechanical properties of thin films. (ESREF 2010), Gaeta (Italie), 11-15 Octobre 2010, 6p.
- "Loi de comportement de matériau composite déposé en couche mince". (ACMA 2010), Marrakech (Maroc), 12-14 Mai 2010, 7p.
- « A new iterative algorithm for the solution for the load deflection square membranes ». (EuroSimE 2010), Bordeaux (France), 26-28 Avril 2010, pp.82-82
- "Iterative algorithm with finite element method for bulge test characterization". (MME 2009), Toulouse (France), 20-22 Septembre 2009, 4p.

### French Conferences (peer-reviewed)

- "Extraction des propriétés mécaniques des matériaux par la technique de gonflement des membranes. Etude de répétabilité". Journée de l'Ecole Doctorale GEET, Toulouse (France), 11 Mars 2010, 3p
- "Caractérisation mécanique de films minces par une méthode éléments finis recalée sur un test de gonflement". (CFM'09), Marseille (France), 24-28 Août 2009, 7p
- Caractérisation mécanique du SiOxNy par la technique de gonflement de membrane comparée à un modèle éléments finis. (JNRDM 2009), Lyon (France), 18-20 Mai 2009, 4p.
- « Caractérisation mécanique par gonflement de membranes ». GDR MECANO Paris Avril 2009
- « caractérisation mécanique de films minces- Comparaison entre le test de gonflement de membrane et vibrométrie de membrane ». 2nd worckshop Nanomaterials : Microstructural and Mechanical characterizations, Simulations. Rouen 2008