

EDUCATION

American University of Beirut

Masters of Engineering in Mechanical Engineering

May 2013

Manufacturing, Materials and Design

Cumulative GPA : 4/4 (94/100)

Bachelor in Mechanical Engineering with Distinction

June 2011

Awards:

- Dean's Award for Best Creative Achievement 2010-2011
- Distinguished List 2007-2008
- Dean's Honor Lists for Excellent Academic Achievement.

National Protestant College

Beirut, Lebanon

June 2007

Lebanese Baccalaureate in General Sciences with Distinction.

LANGUAGES

- English and Arabic: Excellent writing and speaking skills.
- French and Italian: Basic knowledge.

PROFESSIONAL EXPERIENCE

Teaching

March 2010 – Now

- Worked as a instructor assistant for mechanical engineering lab courses at the American university of Beirut.

Internship at Sensorize, Italy

June 2010 – August 2010

- Designed validation and calibration experiments for 3D MEMS accelerometers, 3D MEMS gyroscopes and GPS data.
- Developed MATLAB and LabVIEW codes that aim to analyze athlete's effort starting from row GPS and accelerometers data. The codes include filtering data and correcting it by correlating the sensors data.
- Developed a Graphical user interface application using C++ and Qt that takes sensors data as an input then outputs parameters that helps in evaluating athlete performance. This application was part of a joint project between Sensorize and YCCC (Yorkshire County Cricket Club).

RESEARCH INTEREST

Research at the American University of Beirut

September 2010 –Now

- Experimental and Finite Element Analyses of Friction Stir Welding
- Experimental and Finite Element Analyses of Cryogenically Cooled Drilling
- Design and Implementation of a Snakeboard Robot
- Intelligent Car Communication Framework for Accident and Traffic Minimization

ACTIVITIES

- **Member in the American Society of Mechanical Engineers (ASME) since 2008**
The latest event was when we participated in the ASME robotics and mechatronics design competition and in the founding conference of the SDOB (Student District Operating Board) for District J (Africa and Middle East) held in NotreDame University, May 2010.
- **Member in the Society of Manufacturing Engineering (SME) since 2009**
Participated in the SME electrical micro car Gee Whiz contest. And won the first place in the contest, held in the American University of Beirut, June 2009.
- **Co-founder of the Aerotronix Club**
A volunteering club that develops radio controlled planes projects and organize competitions related to the design and manufacture of RC planes.
- **Member in the Skiing Society since 2007**
A Lebanese club that aims to socialize with all the students from different universities by providing them with activities.

TECHNICAL SKILLS

Programming Languages C, C++, MATLAB, Assembly, LabVIEW, Simulink, G-CODE For CNC Machining
Software AutoCad, AutoCad Plant, CADworx, SAP2000, Pro/Engineer, Mechanica, FloEFD, Fluent, Ansys, ArcGIS, ArcMap, CNCsim, DEFORM, Abaqus
Tools L^AT_EX 2_ε, Tecplot, Microsoft Office, Visio, Adobe Photoshop, Visual Studio, MPLAB, Qt GUI

SELECTED ACADEMIC PROJECT

Design and Implementation of SUAV: The final year project was the design and implementation of a modular, low cost, and small unmanned aerial vehicle. SUAV design was optimized based on aerodynamic and structural analyses. Furthermore, instrumentation and control features are embedded to enhance navigation automation. The project won the best creative achievement award.

RECENT PUBLICATIONS

Journal Articles

- **Kheireddine, A.H.**, Ammouri, A.H , Lu, T., Hamade, R.F., Jawahir, I.S., An Experimental and Numerical Study of the Effect of Cryogenic Cooling on the Surface Integrity of Drilled Holes in AZ31BMg Alloy. *International Journal of Sustainable Manufacturing* 2013 (Submitted)

Refereed Conference Articles

- **Kheireddine, A.H.**, Ammouri, A.H., Hamade, R.F., Kridli, G.T., “Fem Analysis of The Effects Of Cooling Techniques On The Microstructure Of Aluminum 7075 Friction Stir Welded Joints *Proceedings of the ASME 2012 International Mechanical Engineering Congress & Exposition IMECE 2012* November 9-15, 2012, Houston, Texas, USA.
- **Kheireddine, A.H.**, A.H., Ammouri, A.H , Lu, T., Hamade, R.F., Jawahir, I.S., “Experimental and FEM Analyses of the Effect of Liquid Nitrogen Cryogenic Cooling and other Processing parameters on the surface Hardness of Drilled Holes in AZ31b Magnesium *The 10th Global Conference on Sustainable Manufacturing.* June 2012 Istanbul, Turkey.
- Ammouri, A.H., **Kheireddine, A.H.**, Hamade, R.F., “Model-Based Optimization of Process Parameters in the Friction Stir Processing of AZ31b with Active Cooling. *The 10th Global Conference on Sustainable Manufacturing.* June 2012 Istanbul, Turkey.
- Ammouri, A. H., **Kheireddine, A. H.**, Pusavec, F. ,Kridli G. T. ,Hamade R. F., “ A Numerical Model for Predicting the Zener-Hollomon Parameter in the Friction Stir Processing of AZ31B”, *14th CIRP International Conference on Modeling of Machining Operations CMMO2013*, June 2013 Turin, Italy.
- **Kheireddine, A.H.**, Ammouri, A.H.,Hamade, R.F., Kridli, G.T., “Experimentally Validated Thermo-mechanically Coupled FE Simulations of Al/Mg Friction Stir Welded Joints *Proceedings of the ASME 2013 International Mechanical Engineering Congress & Exposition IMECE 2013* November 2013, San Diego, California, USA. (Abstract Accepted)
- Ammouri, A.H.,**Kheireddine, A.H.**, Hamade, R.F., Kridli, G.T., “An Experimentally Verified Methodology for Controlling the Zener-Hollomon Parameter in the Friction Stir Processing of AZ31b *Proceedings of the ASME 2013 International Mechanical Engineering Congress & Exposition IMECE 2013* November 2013, San Diego, California, USA. (Abstract Accepted)
- **Kheireddine, A.H.**, Khalil, A.H., Ammouri, A.H., Hamade, R.F., “Finite Element Modeling of Laser Assisted Friction Stir Welding in Carbon Steels to Enhance Sustainability of Welded Joints. *The 11th Global Conference on Sustainable Manufacturing.* September 2013 Berlin, Germany. (Abstract Accepted)
- Ammouri, A.H., **Kheireddine, A.H.**, Hamade, R.F., “Evaluating the Performance of Selected Constitutive Laws in the Modeling of Friction Stir Processing of AZ31b Toward a More Sustainable Process. *The 11th Global Conference on Sustainable Manufacturing.* September 2013 Berlin, Germany. (Abstract Accepted)

RELEVANT COURSES

Technical Courses:

Manufacturing Process
 Instrumentation and Measurements
 Computer Vision
 Mobile wheeled Robots
 Advanced Manufacturing Automation

Mechanical Design
 Control Systems
 Micro Electro-Mechanical Systems
 Mechatronics System Design
 Quality Control in Manufacturing Systems

Non-Technical Courses:

Micro and Macro Economics
 Technical Communication

Engineering Economy
 Engineering Ethics

