



YINGJIE ZHAO

PhD STUDENT AT Luxembourg Institute of Science and Technology

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EDUCATIONAL BACKGROUND

02/2022 – Now

Luxembourg Institute of Science and Technology, PhD

09/2020 – 12/2022

CentraleSupélec, engineering diploma : Aéronautique, espace et transport

09/2021 – 12/2022

Université Paris-Saclay, Research Master M2: AÉRONAUTIQUE ET SPATIAL: MÉCANIQUE, AUTOMATIQUE, ÉNERGÉTIQUE

09/2016 – 08/2020

Northwestern Polytechnical University Xi'an

Engineering bachelor degree: Aeronautics

PROFESSIONAL EXPERIENCE

Internship, 07 - 08/2019

Chengdu Aircraft Company, Chengdu, China

- Sheet metal plant: stretch forming, rubber-diaphragm forming, stamping, structural aluminium hardening, etc.
- Component assembly plant: wing and fuselage assembly

Internship, 05 - 12/2022

Laboratory EM2C, CentraleSupélec, Gif-sur-Yvette

Implementation of laser techniques for studies of microwave plasmas for aerospace and energy application domains: NO characterization by QCLAS in atmospheric pressure microwave plasmas

SOFTWARE SKILLS

- CATIA-good understanding of kinematic modeling and simulation
- Solidworks - BASIC based parametric modelling
- UG/NX-CNC machining modelling and programming
- DELMIA-digital assembly
- ABAQUS-finite element analysis with sheet metal processes
- COMSOL-parametric simulation for small-scale materials
- Ansys-combustion, heat transfer and species transport
- Python-basic data algorithms and structures and CFD
- MATLAB-aerodynamics and signal processing
- C++, Java-basic object-oriented programming

**SPECIFIC COURSE
AND RESEARCH****CFD and transfer science course:**

- Solving an elliptic PDE such as a stable diffusion problem
- Iterative methods for solving systems of linear equations
- Solving a parabolic PDE such as an unsteady diffusion problem with implicit methods
- Thomas algorithm in 1D and ADI method in 2D
- Solving a Navier-Stokes equation such as an unsteady combustion and species transport problem.
- Thomas algorithm in 1D and ADI method in 2D
- Advanced parameterisation in Ansys Fluent: non-uniform boundary conditions and thermophysical properties..

**Research on rapid modelling and optimisation by simulation of an aircraft assembly line
(Bachelor final year project)**

- Simplified modelling of a line to get familiar with Quest.
- Extraction and encapsulation of typical aircraft assembly line modelling elements
- Construction of a rapid modelling platform that calls a library of encapsulated rapid modelling elements.
- Complete modelling of the aircraft assembly line and optimisation of its performance

- **Study of textures produced by the LASER fusion technique on a powder bed -Application on a heat exchanger model**
- Evaluation of the role of textures in fluid mixing
- Comparison of the best textures for maximising heat exchange and minimising charge loss and mass
- Study of size effects
- Comparison of flow models

Optimizing Deep Neural Networks for Embedded Systems :

- Introduction to PyTorch and Brevitas libraries
- Implementation of a CNN for image identification, then the QNN lighten the structure.
- Use of genetic algorithms for a more accurate NN.

LANGUAGES**English**

Current
IELTS 7.5

Chinese (Mandarin)

Mother tongue

French

Current
TFI B2