Jordan NGUCHO

Mechanical Design & Machine Learning
Mastère MinesParis

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Skills

Techniques

- Mechanical design based on data analsis.
- Modeling and Simulation by finite elements.
- Application of Machine Learning methods for mechanics.
- Simulation and CAD software use : Abaqus, Z-set, SolidWorks

Human Relation

- Team skills : empathy, ability to listen.
- Good communication skills.

Personal Management

- Time management.
- Sense of details.
- Respect of technical specifications.

Software & Programming

- **Language** : Python, Fortran, Matlab, C++, R
- **Libraries** : TensorFlow, Pytorch, OpenCV, pandas,
- **FEA and CAD** : Z-set, Abaqus, SolidWoks, Paraview
- **Basic apps** : LaTeX, Microsoft Office, Vscode, Git

I would like to expand my knowledge in...

- Mechanical Design and Material Design
- Simulation of production systems and processes.
- Data analysis for process optimization and automation.
- Operations Management.

About me

Proficiency in mechanical engineering with strong experience using Machine Learning to solve multiple engineering problems.

Education

Sept 2021 - Sept 2022 **Specialized Mastère in Materials and Structures Design** | BAC + 6
Mines ParisTech, Centre des Matériaux [Évry, France],

Sept 2020 - Sept 2021 **Master II Mathematics and Fundamental Mechanics** | BAC + 5
University of Paris-Saclay [Évry, France],

Oct 2018 - June 2019 **Structured Master in Mathematical Sciences** | BAC + 5
African Institute for Mathematical Sciences (AIMS) [Limbé, Cameroun],

Experiences

Sept 2021 - Sept 2022 **Engineer Intern**
Safran Technology [Chateaufort, France]

Subject : Construction of machine learning models For the selection of constitutive laws in nonlinear mechanics.

keywords : Chaboche model, Time series classification, CNNS, KNN, Gaussian Processes for Classification, Bayesian Inference, ...

March - August 2021 **Engineer Intern**
ONERA, The French Aerospace Lab [Châtillon, France]

Subject : Implementation of a deep learning model (YOLO) for the detection of ejecta during a manufacturing process.

keywords : Additive Manufacturing, Spatters, Object detection, Deep Learning, Yolo, Mask-RCNN, OpenCV, Image Labelling, Validation and Testing...

Projects and Training

Mars 2022 **Training attended :**

July 2021 : Machine Learning for Aeronautics
ONERA, Chatillon, France.

Feb 2022 : Computer Vision and Machine Learning for the Material Scientists
Centre des Matériaux, Évry, France.

Mars 2022 : Computer Vision and Time Series in Physics and Engineering
PSL, Paris, France.

Mars 2021 **Projects : Metallurgy Physics of alloys**
Mines ParisTech, Centre des Matériaux [Évry, France]

- Influence of ageing on the microstructure and mechanical properties of aluminium-based alloy for aeronautical application : SEM/EDS and TEM.
- Influence of a thermomechanical treatment on the microstructure of an austenitic stainless steel type AISI 316 : SEM/EBSD.

Langues

Français : Native

Anglais : Fluent

References

Fabien CASENAVE
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Research Scientist at SAFRAN

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Assistant Professeur HDR, MinesPar