MOHAMED SEMMAD

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EDUCATION

Ecole Nationale Polytechnique (ENP) *Sep 2019 - Present*
Engineering Degree
Department of Mechanical Engineering

- Courses: Classical and Statistical Thermodynamics, Fluid Mechanics, Heat Transfer, Gasdynamics, FEM/FVM, Turbomachinery, Energy Conversion, Mechanical Design, Composite Materials, Material Science, Partial Differential Equations, Mathematical Optimization, Computer Science.

Ecole Nationale Polytechnique (ENP) *2017-2019*
Elite Preparatory School/ Engineering School Entrance Exam

- 2 years of intensive program (40 hours of class per week) in mathematics, physics and other fundamentals.
- Ranking: Top 10% during the two years.
- Ranking: Top 10% at The Engineering School Entrance Exam.

EXPERIENCE

Mechanical Engineering And Development Lab Ecole Nationale Polytechnique, Algiers
Research Internship under Pr.SMAILI advisement *Sep 2021*

· Literature review of Solar-powered Absorption Chillers.
· The work is aimed to be a stepping stone for a more specific study about the integration of Solar-powered Absorption Chillers in the Algerian market.
· Further research may target the absorber part of absorption chillers, which is a critical part and presents an open field for further improvement.

Research Centre In Industrial Technologies -CRTI- Tipaza, Algeria
Internship at the Aeronautical Technologies Block *Dec 2019-Jan 2020*

· This group conducts research on designing drones for specific applications.
· My task was to follow the process of designing and fabricating a wing for a fixed-wing drone.
· Steps of the process include: research and literature reviewing, CAD, Mold preparation, and glass fiber elaboration.
· The experience gave a deep insight into the structural requirement to consider when designing drones' bodies, also I learned the method of elaborating composite material.

Eurobot 2020
International Robotics Contest *2019-2020*

· I was a member of our school's team within the design division.
· I was responsible for designing and optimizing mechanisms able to accomplish the game's task and for fitting them together in the same robot, under the prescribed constraints
· The designed mechanisms were specially made to meet the technical specifications of the competition's rules, to this end, the parts were mostly made from scratch, starting with design calculation, CAD to fabrication processes.

Algeria AI Challenge
National AI Challenge *2020-2021*

- The challenge is about developing an Artificial Intelligence based solution to tackle an everyday life problem, the proposed solution must be implemented using an Invidia Jetson Nano Developer kit.
- Our solution was an application for plant classification based on leaf scanning, our approach was to test a popular neural networks model with some architecture modification to achieve the best accuracy on our data set.
- I contributed to the code, written in Python, mainly based on the Tensorflow framework.

ONLINE COURSES

Python For Everybody by University of Michigan on Coursera
Retrieving, Processing, and Visualizing Data with Python *2020*

ENGR2000X-A Hands-on Introduction to Engineering Simulations by Cornell University on edX
Using Ansys for solving typical engineering problems, along with emphasizing the FEM and FVM foundations. *2020*

16.101x-Introduction to Aerodynamics by MIT on edX
Explanation of Aerodynamic concepts with applications: from basics Control Volume Analysis to Boundary Layer and Shock Expansion theories. *2020*

AE1110x-Introduction to Aeronautical Engineering by Delft university on edX
An exploration of the main subjects of Aeronautical Engineering including but not limited to: Aircraft performance, structural analysis, and aircraft dynamics. *2020*

6.86x-Machine Learning with Python-From Linear Models to Deep Learning by MIT on edX
An in-depth introduction to the field of machine learning, from linear models to deep learning and reinforcement learning, through hands-on Python projects. *2020*

SKILLS

Programming skills:
C, Python, LaTex.
Software:
Ansys, SolidWorks, Matlab.
Languages:
Arabic (Native), English (TOEFL iBT: 84), French (TCF: C1/74%).

EXTRACURRICULAR

Sport:
A jiu-jitsu athlete, with participation in the ABU DHABI WORLD PROFESSIONAL JIU-JITSU 2016 edition.
volunteering:
Teaching Math/Physics to Secondary/High school students.
Membership:
2019-2020 Member of the Scientific Department of the Vision and Innovation Club: The VIC is a scientific club founded by a group of students within the Ecole Nationale Polytechnique - Algiers.