



# MEHDI ZOUITINE

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## ABOUT ME

Master student in Applied Mathematics. I am passionate about maths, computer science and machine learning, I am always in search of innovation and new challenges.  
I'm looking for ambitious and challenging projects.

—**Current goal** : Get an apprenticeship in applied maths (1 year from September 2020)

—**Long-term goal** : Get a thesis in machine learning or applied maths and then work in AI.

## EDUCATION



### MSc. Applied Mathematics Université Toulouse Paul Sabatier

2019-2021

- Theoretical mathematics
- Optimization
- Image, Signal, Simulation and stochastic simulation
- Probability/Statistics/Machine learning
- Scientific computation
- Algorithms, programming and software engineering



### BSc. Pure Mathematics Université Toulouse Paul Sabatier

2016-2019

- Analysis
- Algebra/ Theory of numbers
- Topology
- Statistics/Probability
- Calculus

### BSc. Computer Science Université Toulouse Paul Sabatier

2016-2019

- Theoretical computer science
- Python ,C, Caml, C++, Java, SQL, VHDL, Bash
- Multithreading/System/OS/
- Artificial intelligence
- Database/OOP/FP

### Internship : Deep learning on fly test data [3 months] 2020 (AIRBUS):

- Sensor value prediction using MLP and LSTM.
- Study the efficiency of Siamese networks for the detection of anomalies in time series.
- Communication and presentation of results to industry experts



## SCIENTIFIC EXPERIENCES



- Side work : Deep learning Experimentation on **Pytorch** (LSTM,GRU,ANN,CNN,GAN,AE) [in progress]
- Project : Formal verification of deep neural network (**IRIT**) [4 months]
- Unofficial internship : Research in Mathematics and Computer Science (**IMT**) [3 months]



## JOBS

- Worker in an aeronautical factory (**Mecaprotec Industries**)
- Employee in a retirement home (**Edenis**)
- Sales animator in virtual reality (**Elite Animation**)
- Maths teacher in a school support structure (**Groupe Capitole**)
- Private tutoring in mathematics (had more than 15 students)
- Agricultural work (Lafitte-Vigordane)



## SKILLS

- **Mathematics** : Knowledge and solid experience in all areas of mathematics
- **Research**: Reading scientific papers
- **Programming**: Experienced in Python, C and decent level in Caml,Java,Bash,SQL,Latex,VHDL,C++
- **Multi-threading**: Experienced in C (OpenMp) and Python multi-threading.
- **Databases**: Strong knowledge of relational and SQL databases
- **Data analysis**: Some knowledge I learned outside of class
- **Simulation**: Stochastic and deterministic simulation in Python
- **Image and signal processing**: Processing image and signal in C/Python
- **Statistics**: Collection, sampling, estimation, testing
- **Scraping**: Data extraction on websites using Scrappy (Python)
- **Deep learning**: Solid knowledge of the concepts and hands-on experience
- **Framework**: PyTorch, FastAi, Sklearn, Creme
- Professional **English** and fluent **French**



## COMPETITION/DISTINCTION

- Finalist** in the International Data Analysis Olympiad IDAO 2020 Russia ([link](#)) :
  - IDAO is an international competition of machine learning for students from all over the world
  - More than 2700 participants from 83 countries
  - 1 off-line phase and one on-site phase in Russia (We'll do everything we can to finish first !)
- 1st place** in the Continental hackathon 2019 ([link](#)) :
  - 2 days machine learning competitions to predict the energy consumption of an electric car.
  - Meeting with Continental's teams and presentation of our solution to Continental's leaders.
- Defi IA/Airbus competitions 2019-2020 ([link](#)):
  - 4 months machine learning competitions to detect anomalies in flight test data



## REFERENCES

**Martin Strecker** : Professor in computer science at the **University of Toulouse Paul Sabatier** and researcher at **IRIT** (Toulouse institute of computer science) laboratory ([martin.strecker@irit.fr](mailto:martin.strecker@irit.fr)).

**Fabrice Gamboa**: Professor in Mathematics at the **University of Toulouse Paul Sabatier** and **ANITI** researcher at **IMT** (Toulouse institute of Mathematics) laboratory ([fabrice.gamboa@math.univ-toulouse.fr](mailto:fabrice.gamboa@math.univ-toulouse.fr)).