

# Mohamed Yahya SOALI

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An operational research and optimization Master's student | [github.com/m-yahyaS](https://github.com/m-yahyaS)

## EDUCATION

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### Ecole Polytechnique (X), France : Paris

August 2018 – Present

*Highly selective Bachelor of Science and Master of Science in Applied Mathematics*

**GPA : 3.96/4.00**

- Majoring in Operations Research and Optimization, with courses in Statistics and Machine Learning.
- Coursework includes: Operations Research, Statistics, Monte Carlo Methods and Stochastic Processes, Design and Analysis of Algorithms, Optimization and Control. (**Major GPA : 4.00/4.00**)

### LYDEX, Morocco : Benguerir

August 2016 – August 2018

*Preparatory Classes, Mathematics, Physics, Computer Science*

**GPA : 4.00/4.00**

- Two-year intensive program (MPSI/MP\*) leading to competitive entrance examination to the Grandes Ecoles for scientific studies (ranked 9<sup>th</sup> for l'X) .

### Lycée Ben M'Sick, Morocco : Casablanca

Sep. 2013 – June 2016

*High school diploma with highest honors. (1<sup>st</sup> in Morocco in public schools)*

**19.14/20.00**

## PROJECT RESEARCH

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### Sizing of an intervention center on an electrical distribution network | DEOR

Sep. 2020 – Present

*Supervisors : Stéphane Gaubert & Xavier Allamigeon in collaboration with EDF Paris*

- Modelled and analyzed a Call center workflow using timed Petri nets .
- Determined , with a theoretical and simulation based research, the convenient (optimal) priority routing policy on the center's activities.

### Non-Linear Dimensionality reduction using ISOMAP | Data Science

April 2020

*Supervisor : Juan-Antonio Cordero-Fuertes*

- Studied in depth of state-of-art constrained shortest path algorithms.
- Applied to the study of key elements in datasets.

### Chess data analysis and visualisation | Giant Global Graph

March 2020 – May 2020

*Supervisor : Pierre Bourhis*

- Purified and analyzed chess game databases.
- Used knowledge graphs to extract game strategies to be advised to beginners (Neo4J, Gephi).

### Optimizing user distribution over communication channels | Design of algorithms

January 2020

*Supervisor : Benjamin Doerr & Marceau Coupechoux*

- Compared efficiency of different approaches (Greedy, LP solvers, Dynamic programming and Branch and Bound) to solve a multi-choice knapsack problem.

### Trajectory planning and control of collaborative systems | LIX

Sep. 2019 – April 2020

*Supervisors : Eric Goubault & Sylvie Putot*

- Built a drone's control platform for the computer science department of l'X.
- Trajectory planning algorithms for obstacle avoidance.

## INTERNSHIPS/ TEACHING & OUTREACH

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### SAY Partners, France : Paris

June 2020 – Sep. 2020

*Data science consultant intern*

- Structured and cleaned data using several NLP and searching algorithms.
- Developed a scoring algorithm ranking technicians over a telecommunication network..
- Provided actionable insights based on data (Scheduling and efficiency optimisation).

### Edukaty, Morocco : Casablanca

Dec. 2018 – July 2019

*Mathematic tutor*

- Delivered advanced mathematics courses.
- Shared study skills, note-taking strategies with preparatory classes students.

### Ministry of Education, France : Montpellier

Sep. 2018 – April 2019

*Educator, Mentor and communication officer*

- Mentored high and middle school classes in Mathematics, Physics ...
- Organised cultural outings and extracurricular activities.

## COMMUNITY WORK/ OUTSIDE ACTIVITIES

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### **Moroccan children's parliament (ONDE), Morocco : Casablanca**

*Sep. 2013 – July 2018*

*Active member and tutor*

- Proposes solution and organises Welfare Activities for rural development to help Morocco achieve the United Nations Millenium Development Goals (MDGs).

### **X-Afrique, France : Paris**

*Sep. 2019 – Present*

*Head of the sponsorship division*

- Secures sponsorship for the large scale event "X-Afrique" (a forum highlighting the culture and entrepreneurship in Africa) and related workshops at l'X.

### **Jump-X, France : Paris**

*Sep. 2019 – Present*

*Member of logistics division*

- Addresses and manages the plan logistics of the equestrian inter-schools competition Jump-X.

## NOTABLE AWARDS AND HONORS

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**2020** Moroccan OCP foundation merit scholarship for outstanding results in entrance examination. (rank : 1<sup>st</sup>/500)

**2016** 1<sup>st</sup> rank in the Moroccan National Chemistry Olympiad.

**2016** 7<sup>th</sup> rank in the Moroccan National Mathematical Olympiad.

**2016** 3<sup>rd</sup> rank in Concours General, Morocco.

**2016** 1<sup>st</sup> rank in high public schools final exam (19.14/20.00), Morocco.

## SKILLS

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**Technical** *Proficient:* SQL, Python, Java. *Prior experience:* C++, HTML/CSS, Maple.

**Languages** *Full proficiency:* English, French. *Native:* Arabic. *Beginner:* Chinese.

## OUTSIDE ACTIVITIES

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Horse-riding, biking, reading, drawing, hiking, debating.