

# Youssef Aitousarrah

GRADUATE STUDENT · RESEARCH ASSISTANT

1520 Sand Hill Rd Apt 203, 94304 Palo Alto, USA

☎ (650) 344-8664 | ✉ aitous@stanford.edu | 🏠 www.posquit0.com | 📷 Aitous | 🌐 aitous

*“If you work for it, you’ll deserve what comes. Hard work.”*

## Summary

- A motivated and persevering student with a desire for continual progress.
- Worked on different team projects in which proactivity, flexibility and leadership were further developed.

## Education

### Stanford University

MSC IN ENERGY RESOURCES ENGINEERING

*Palo Alto, USA*

*Sept. 2019 - Present*

- Taking Machine Learning and Stats classes, GPA: 4.15/4.
- Got Frank G. Miller Fellowship Award for outstanding academic achievement.

### Ecole Polytechnique

MSC DEGREE IN ENGINEERING

*Paris, France*

*Aug. 2016 - Jun. 2019*

- The leading Grande Ecole in France, GPA: 3.9/4.

### Ibn Timiya, CPGE

UNDERGRAD STUDIES

*Marrakesh, Morocco*

*Aug. 2014 - Jun. 2016*

- Two years of Preparatory Classes MP, undergraduate intensive courses in Mathematics, Physics and Engineering/Computer Sciences.

## Work Experience

### Stanford University

RESEARCH ASSISTANT

*Palo Alto, USA*

*Sept. 2019 - Present*

- Working in the **SUPRI-B** group under the supervision of Prof. **Hamdi Tchelepi**, Chair, Department of ERE and Prof. **Ilenia Battiato**.
- Developing a simulator capable of simulating flow in a densely fractured chip.
- DNS (Direct Numerical Simulation) cannot be used for this task as it is computationally expensive (high dispersity of scales between fractures).

### Kappa Engineering

RESEARCH INTERN

*Nice, France*

*Apr. 2019 - Aug. 2019*

- Examined and synthesized the extensive literature work about **MiniFrac/DFIT**.
- Developed an **analytical model** capable of simulating the pressure response during this test.
- Coding and implementing the analytical model in **C++** into the company’s software.

### BearingPoint

STRATEGY & INNOVATION CONSULTING INTERN

*Paris, France*

*Jun. 2018 - Aug. 2018*

- Worked on different subject including Blockchain and IoT within a consulting team.

### Apprentis d’Auteuil

EDUCATOR

*Paris, France*

*Oct. 2016 - Mar. 2017*

- Gave lessons and exams, organized and led activities (football tournaments,...).
- Worked in team to spot dysfunctions and enhance the overall efficiency.

### French Army

MILITARY TRAINING

*La Courtine, France*

*Sept. 2016 - Sept. 2016*

- Developed leadership and teamwork via workshops in command exercises.

## Projects

### Schizophrenia prediction and classification (STATS202):

STANFORD UNIVERSITY

*Palo Alto, USA*

*Apr. 2020 - Aug. 2020*

- Developed various statistical methods to assess the treatment drug’s effect, classify patients, forecast the PANSS score and classify the patients cases.
- Participated in Kaggle competition. Ranked 2<sup>nd</sup> in the forecasting task and 3<sup>rd</sup> in the classification task.

### Fire Detector (CS230):

STANFORD UNIVERSITY

*Palo Alto, USA*

*Jan. 2020 - Apr. 2020*

- Developed a Neural Network model to predict fire propagation.
- Idea came in the light of the fires that ravaged California in that period.

## Reservoir Simulator (ENE223):

STANFORD UNIVERSITY

- Developed a reservoir simulator in **Python** to solve PDEs modeling flow in porous media.
- Implemented additional options: IMPES solving strategy, **PyTorch** AD to compute Jacobians,...

Palo Alto, USA

Jan. 2020 - Apr. 2020

## Thermodynamics (ENE251):

STANFORD UNIVERSITY

- Developed an algorithm for expanding and pseudoizing the compositional reservoir fluid.
- Built a mixing-cell algorithm for determining MMP and corresponding states viscosity.

Palo Alto, USA

Sept. 2019 - Dec. 2019

## Drone programming project (Collective Scientific Project):

ECOLE POLYTECHNIQUE

- A from scratch drone building project.
- Built the drone's navigation system using *OpenCv* to detect obstacles and measure distances.

Paris, France

Apr. 2017 - Jun. 2018

## Poisson process & the random evolution of a stock:

ECOLE POLYTECHNIQUE

- Studied a Poisson process and demonstrated its properties.
- Simulated the theoretical results to depict the evolution of stocks in a warehouse (*Python*).

Paris, France

Apr. 2017 - Jun. 2017

## Honors & Awards

2020 **Scholarship**, SPWLA Foundation Scholarship.

Palo Alto, USA

2020 **Fellowship**, Frank G. Miller Fellowship Award for outstanding academic achievement.

Palo Alto, USA

2016 **French Government Excellence Scholarship**, Awarded to the top 10 admitted students at France's leading Grandes Écoles.

Paris, USA

2016 **Ranked 2<sup>nd</sup>**, In the Moroccan national Preparatory Classes competitive exams (4000 student competed).

Marrakesh, Morocco

2014 **Baccalaureate prize**, Awarded to the Top students with the highest marks nationwide.

Marrakesh, Morocco

2014 **King Mohammed 6 Scholarship**, Awarded to the Top students in the Baccalaureate exam.

Marrakesh, Morocco

## Skills

### Coding:

PYTHON, C/C++, JAVA, OPENCv, MYSQL, LATEX.

### Languages:

ARABIC: NATIVE FRENCH: BILINGUAL ENGLISH: FLUENT (TOEFL: 108/120) GERMAN: BEGINNER

## Extracurricular Activity

### 24H Natation

VICE-PRESIDENT

- Charity swimming event to raise funds for "Imagine for Margo" association to help children with cancer.

Paris, France

Aug. 2017 - Feb. 2018

### Silk Roads association

VICE-PRESIDENT

- Organizing a cultural exchange program with China's leading Universities.

Paris, France

Mar. 2018 - Feb. 2019

### TEDx Polytechnique

LOGISTIC TEAM

- Organizing "TEDx Polytechnique".

Paris, France

Sept. 2018 - Feb. 2019

### X-Maroc

MEMBER

- Planning and managing multiple events to present the Moroccan Culture.

Paris, France

Sept. 2016 - Jun. 2019

### Competitive Swimming Team

MEMBER

- Member of the competitive swimming pool at Ecole Polytechnique.

Paris, France

Sept. 2016 - Jun. 2019

### Hiking

ACTIVITY

- The highest mountain in Morocco and several mountains in Europe.

Worldwide

Ongoing