

# Rayan Takka

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Looking for a 6-month internship starting in May 2023

## EDUCATION

<b>CentraleSupélec</b> <i>MSc in Engineering, Mathematics, Computer Science</i> <ul style="list-style-type: none"><li>Relevant Coursework : Probability theory, Partial Differential Equations, Statistics, Algorithms and Complexity, Machine Learning, Models and Systems for Big Data Management, Mathematical modeling of financial markets, Quantum physics.</li></ul>	Sep. 2019 – Apr. 2023 <i>Paris Saclay, France</i>
<b>ETH Zürich</b> <i>Academic exchange at the Economics/Mathematics Department</i> <ul style="list-style-type: none"><li>Main courses: Decisions and Markets, Financial Economics, Business Analytics, Computational Methods for Quantitative Finance</li></ul>	Feb. 2021 – Aug. 2021 <i>Zürich, Suisse</i>
<b>Lycée Masséna</b> <i>Intensive preparation for the entrance exam for French top Engineering Schools</i> <ul style="list-style-type: none"><li>A French specific two-year undergraduate program leading to a nation-wide competitive examination into the “Grandes Ecoles” (France’s top Graduate Schools in Engineering and Business studies).</li></ul>	Sep. 2017 – Jul. 2019 <i>Nice, France</i>
<b>Lycée International Alexandre Dumas</b> <i>French Scientific “Baccalauréat” (High School Diploma) with highest honors (18.18/20)</i>	Sep. 2010 – Jul. 2017 <i>Algiers, Algeria</i>

## EXPERIENCE

<b>Quantitative Investment Strategies Structuring Intern</b> <i>BNP Paribas Corporate and Institutional Banking</i> <ul style="list-style-type: none"><li>6 month internship in the QIS Lab OF BNP Paribas CIB, in charge of the development of quantitative investment strategies. Main Tasks : development of new intraday strategies and analysis tools, quantitative analysis of high frequency data to identify optimal solutions.</li></ul>	Mar. 2021 – Aug. 2022 <i>Paris, France</i>
<b>Fixed Income Trading Intern</b> <i>Société générale Corporate and Investment Banking</i> <ul style="list-style-type: none"><li>6 month internship in the Euro Govies and Inflation trading desk, in charge of the quotation and hedging of European bonds. Development of Relative Value and risk monitoring tools.</li></ul>	Sep. 2021 – Feb. 2022 <i>Paris-La Défense, France</i>

## PROJECTS

<b>Credit Card Fraud Detection using Machine Learning</b> <i>One month Machine Learning project</i> <ul style="list-style-type: none"><li>Study of machine learning methods and performances comparison for the credit card fraud detection problem</li></ul>	Apr. 2021 – Jul. 2021 <i>Zürich, Switzerland</i>
<b>Numerical approach to the Heston model for option pricing</b> <i>Three month project in Applied Mathematics</i> <ul style="list-style-type: none"><li>Introduction to the Heston model and comparison to other models (B-S, CEV-SV), numerical implementation of an associated pricing formula in Python via Numpy, Scipy, Matplotlib, Pandas.</li></ul>	Jan. 2021 – Apr. 2021 <i>Zürich, Switzerland</i>
<b>Mathematical modelling of a viral spread</b> <i>One month project in Applied Mathematics</i> <ul style="list-style-type: none"><li>Use of dynamic models for epidemic propagation based on ordinary differential equations (SIR, SIS, etc.) for prediction and decision support. Numerical implementation in Python via Numpy, Scipy, Matplotlib, Pandas.</li></ul>	Jan. 2020 <i>Paris Saclay, France</i>

## LEADERSHIP AND EXTRACURRICULAR ACTIVITIES

<b>Summer Trainee/Volunteer</b> <i>Alpes-Maritimes Food Bank</i> <ul style="list-style-type: none"><li>Sorted donations in the cold-room and delivered food packages.</li><li>Created IT tutorials to help volunteers to use the inventory management software. VBA programming in order to automatise various tasks such as inventory reporting.</li></ul>	Jul. 2020 – Aug. 2020 <i>Nice, France</i>
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## SKILLS AND HOBBIES

**IT:** Python, VBA, Microsoft Office, SQL, LaTeX, Git, Adobe Creative Suit  
**Languages:** French/Native – English/Fluent – Spanish/Intermediate  
**Sport:** Member of CentraleSupélec’s Football club, Running, Hiking  
**Teaching:** Mathematics and Physics tutor for undergraduate and high school students