Abdoulaye Traore

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EDUCATION

INSTITUT POLYTECHNIQUE DE PARIS & UNIVERSITY OF PARIS SACLAY   **2024 - 2025**
First year of Master's degree in Applied Mathematics

- **Relevant coursework:** Markov's Chains, Discrete-time Martingales, Statistical Modeling, Stochastic Calculus, Time series, Probabilistic numerical methods, Mathematical models of finance and Differentiable Optimization: Theory and Algorithms.

ENSTA PARIS - INSTITUTE POLYTECHNIQUE OF PARIS   **2023 - 2026**
French Ivy League "Grande Ecole", Master of Science in Engineering - GPA : 3.8 (First Year)

- **Relevant coursework:** Digital signal processing, Basic analysis tools for partial differential equations, The discretization of partial differential equations, Quadratic Optimization and Dynamic Systems: Analysis & Stability, Automatics, Information and Communication Sciences.

FÉLIX HOUPHOUËT BOIGNY NATIONAL POLYTECHNIQUE INSTITUTE (INPHB)   **2021 - 2023**
· Intensive curriculum in advanced Math, Physics and Computer Science
· International French-speaking entrance exam to the Institute Polytechnique of Paris
· GPA 4.0 (Top 5% of Class)

PROJECTS

Autonomous Car Racing Project, ENS Paris   **Jan-Avril 2025**
· Developed camera-based object detection to optimize vehicle navigation.

Programming Chess game with AI using alpha-beta algorithm, ENSTA Paris   **Jan-March 2025**
· Implementation of Chess and Tic-tac-toe game in C++ with AI using alpha-beta algorithm in team project.

Time series forecasting of gold closing prices using exponential smoothing methods   **Jan 2025**
· Cleaned, analyzed, and built a predictive model for gold closing prices using exponential smoothing methods.

Solving Non-linear optimization problem by a Sequential Quadratic Programming algorithm   **Nov-Jan 2025**

Numerical solution of the heat equation in the time domain | MATLAB, Finite Element method   **Nov 2024**
· Modeling and solving stationary and time-dependent problem of the heat propagation with Dirichlet, Neumann and Fourier Conditions in some space and time domains.

Reinforcement Learning, ENSTA Paris   **March-May 2024**
· Implementation of reinforcement learning algorithms (Q-learning, SARSA, double Q-learning) to solve a maze and develop an AI capable of playing Tic-tac-toe.

Operational Research: Optimization in networks, ENSTA PARIS   **Nov-Jan 2024**
· Explored and mastered MATLAB to prepare for the project, focusing on the fundamentals of Operations Research (OR) for analyzing complex situations and aiding decision-making.

EXPERIENCE

Operator Internship at Stellantis, first automobile manufacturer in Europe   **July-August 2024**
· Gained hands-on experience in automotive production, working on the assembly line in the Ferrage sector.

Participation in the Organization of the French Tournament of Young Mathematicians (TFJM²)   **April 2024**
· Planning and execution of administrative procedures, Management of tournament facilities.

Modeling and 3d printing Training, ORANGE DIGITAL CENTER   **May 2022**
· Discovery of Sketchup 3D modeling software and learning basic modeling tools.
· Orange is a French telecommunications company with a turnover of 43.5 billion euros in 2022 .

Auditor – AEEMCI (association)   **2018-2021**
· Oversaw and planned treasury management.

Deputy Secretary - Student Council (BDE)   **2016-2017**

SKILLS & SPOKEN LANGUAGES

· Technical: Python, C, C++, Word, Latex, Excel, PowerPoint.
· Languages: French native speaker, fluent in English (Level B2), Beginner Arabe.

AWARDS

· Awarded 3rd place: Ivorian National Physics Competition - License Level 1.   **2022**
· High school valedictorian   **2021**
· Certificate of Commendation for Capital's Best Student in the National Junior High School Diploma   **2018**