Antoine Bambade

Website: bambade.github.io
Email: bambade.antoine@gmail.com
LinkedIn: antoine-bambade-5b0450135
Github: github.com/Bambade

EDUCATION

INRIA, Paris, France

Ph.D. in computer science, 2020-23

Advisors: Jean Ponce, Justin Carpentier, Adrien Taylor.

I proposed an open source machine learning quadratic programming layer and solver for real time applications. It is part of CVXPY. About 1M downloads within two years (with pip and conda). Publications: RSS, ICLR (spotlight), ICRA, IROS

École Nationale des Ponts et Chaussées, Paris, France

Master of Public Administration, 2019-20

This master is part of the École Polytechnique curriculum when entering senior civil service as an "Ingénieur du Corps des Ponts, des Eaux et des Forêts".

University of Cambridge, Cambridge, United Kingdom.

Master of Science, 2018-19

Tripos part III in statistical learning

École Polytechnique, Palaiseau, France

Bachelor and Master's degrees in applied mathematics, 2015-2019

Lycée Henri IV, Paris, France

"classes préparatoires" in mathematics and physics, 2012-2015

WORK EXPERIENCE

Research scientist, EDF lab, Palaiseau, France

R&D department, Sep 2023-present (as part of my civil service)

Driving the development and improvement of advanced numerical optimization solvers for diverse electricity management applications, tailoring techniques based on problem structure, with solutions encompassing mixed-integer, continuous, stochastic, distributed optimization, and machine learning methods. Achievements: two innovative solutions selected to the final of the Grand Trophy of R&D (about 20M€ gain/year).

Secretary of State Office for Transportation, Paris, France

Collaborator, Jan 2020- Aug 2020, intern mission as part of my MPA curriculum

I contributed to three initiatives: (i) developing a national strategy to enhance rail freight;

(ii) advising the French Infrastructure Guidance Council on international best practices in asset management; and (iii) coordinating transportation responses during the Covid-19 crisis.

SNCF Réseau (French Railways), Paris, France

Consultant in innovation, Oct 2019- Dec 2019, part time mission as part of my MPA curriculum

Strategy for better spread of decision support tools and process digitization for the direction of innovation.

Digifolio, Paris, France.

Research intern in a FinTech, Jun 2019- Aug 2019

Research work to design a portfolio robot advisor (based on bayesian neural networks and Black-Litterman theory).

Lycée Henri IV, Paris, France

Oral examiner in Physics and Chemistry (class MP), Sep 2019- Jan 2020

Lawrence Berkeley National Laboratory, California, USA

Student Assistant in High Frequency Trading, Apr 2018- Aug 2019

Advisor: Pr. John (Kesheng) Wu. I studied the VPIN model designed to predict Flash Crashes. My contribution was awarded a research price by the finance department of the École Polytechnique.

BIPE, Beijing, China

Consultant and Data Scientist Intern, Jun 2017- Aug 2018

I worked on a mission for Volkswagen Group China, which was to predict vehicle production from 2017 to 2028 thanks to a demand model using econometric tools.

Frigate Le Vendémiaire, Pacific Ocean

Cadet Officer in the French Navy, Sep 2015- Apr 2016

PROGRAMMING SKILLS

C++, C, Python, Git, Bash, CMake, PyTorch

LANGUAGES

French (native), English (fluent), Russian (advanced notions)

DISTINCTIONS

2019: "Queens' College first class honors reward".
2018:"The Congratulations" of the École Polytechnique (for LBNL research work).
2018: "Cambridge Trust Scholar Reward" (funding of student fees)
2016: Bronze Medal of Nationale Defense.

REVIEWER

ICLR, JOTA, Math. Prog

OTHER ACTIVITIES

Sports: Tennis (Vice-champion of the École Polytechnique, team member of the University of Cambridge)
Arts: Piano (classical music)