LOANN BRAHIMI

Quantitative research

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LoannData

Technical Skills

Overview

Programming

Python • Scikit-Learn • Tensorflow

C++ • Shell • LaTeX

SQL • Django • MongoDB

Education

PhD., Astrophysics
Transport theory - MHD turbulence - Computing Science
University of Montpellier
2017 - 2020 | Montpellier, France

MSc., Fundamental Physics, rank 1
University of Montpellier
2015 - 2017 | Montpellier, France

Certifications
Deep Learning Specialization
MLOps Specialization

Languages
French - English

Experience

Dec 2020 - **Co-founder & Full Stack Quant Developer/Researcher** Q26

- **Q26** is a project I co-founded with three associates dedicated to the development of algo-trading systems on **Stock** and **Forex** markets.
- Development of a concept/prototype of a **semi-automatic algorithmic trading framework** allowing to edit strategies and risk management hyperparameters in real time.
- Development of a trading strategy **backtest system** and a real time **trading system** framework.
- Research & Development of multiple prototypes of **trading strategy** and **technical indicators**.
- **Tools**: Python, Scikit-Learn, TensorFlow, Dash, MongoDB, MQL4, Finnhub REST API, IBKR TWS python API

2017 - 2020 **PhD., Research fellow in Astrophysics** University of Montpellier

Thesis: Cosmic Ray transport in the weakly ionized turbulent interstellar medium

- Development of a **transport code** in **C++** and **Python** describing the non-linear injection of Cosmic Rays in a multiphasic turbulent interstellar medium from supernova remnants. This code consists in solving a **system of PDEs** on a non-regular 2D grid.
- Implementation of a **numerical non-linear advection/diffusion method** in the AMR-MHD Astrophysics code RAMSES to describe the effect of the turbulence generated by cosmic rays instabilities on the interstellar medium turbulent, and thermodynamic properties.
- **5 Publications in scientific journals**, research presentation at **international conferences**, summer schools about variety of subject around the thematics of **statistics**, **numerical MHD systems in Astrophysics** and **machine learning**.
- **Tools**: Python, C++, Fortran90, LaTeX
- **Mathematics background**: Numerical Methods, PDE systems solving, Stochastic Calculus, Transport & Turbulence Theories

May 2016 - Jul 2016 **Data Analyst, Research fellow, Characterization of the high energy Astrophysical source H.E.S.S. J1848-018** LUPM

- Environmental and multi-wavelength study of the source H.E.S.S. J1848-018 - Emission spectra reconstruction over a wide energy band, power-law fitting and **quantitative analysis**.
- **Tools**: Python, Scikit-learn, Naima, LaTeX

Other projects

May 2015 - **Science popularizer, website about Astrophysics** Physique & Réussite

- **60+ articles** for students about concepts in Astrophysics
- Average of **2000 unique users** per month and **recommended by professors to their students**

2017 - 2020 **Teaching, Assistant professor, Internship manager** University of Montpellier

- **Tutorial**: 64h of general physics given to 1st year students, 100h of experimental physcis given to 3rd year students
- **Internship**: 2 months, master student internship management. Analytical & Numerical studies of the Cosmic Rays propagation in the Interstellar Medium.

1994 - **Personal hobbies**

- **Mountain sports**: Hiking, Running, Climbing, Alpinism
- **Social**: Philosophical debates & afterworks