Matias P. **Borghi Orue**

QUANTITATIVE ANALYST · MSC. PHYSICS

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Summary

Sr. Quantitative Analyst with 4+ years of experience in the Finance Industry, working as a consultant for Tier-1 US Investment Banks as well as in a project for a R&D team. Accountable, inquisitive, teamwork player looking for new challenges.

Work Experience

Crisil Limited
Buenos Aires, Argentina

SR. QUANTITATIVE ANALYST — *Jun. 2021 - Present*

- Consultant for Tier-1 US investment bank in the Wealth Management Division.
- Working with a vendor (third-party) model that uses deep learning techniques in order to price stocks and gain insight into portfolio management investing.
- Responsible for creating technical documentation.
- Creation and execution of benchmarking analysis, back testing, stress and stability tests, among others.
- Engage on weekly model updates and discussions with vendor and bank associates.

Buenos Aires, Argentina

QUANTITATIVE RESEARCHER — *Mar. 2019 - May. 2021*

- Working in a R&D team in the development of a high-performance library designed to achieve fast and advanced quantitative finance calculations, including: Monte Carlo universal pricing engine for exotic equity products; Greeks computation via automatic differentiation; domain specific language (DSL) design and implementation for syntactically-sweetened inputs.
- Development of cutting edge Machine Learning and Deep Learning solutions for pricing products with early exercise features in both high and low dimensions.
- Technical leader in charge of the development, maintenance, testing, documentation and deployment of web applications using high standards for microservice deliveries, including: frontend development; backend development; GraphQL API endpoints; documenting solution architecture; automated cloud migration environments.
- Responsible for creating a rapidly working prototype by designing the frontend interface using React.js and communicating via GraphQL APIs to a Django backend that consumes Julia workers.
- Preparing presentations of technical advances to senior management.

Buenos Aires, Argentina

QUANTITATIVE ANALYST — *Aug. 2017 - Feb. 2019*

- Consultant for Tier-1 US investment bank - Equity and Hybrids Group. Front Office.
- Pricing and Risk Management Equity and Hybrid (IR/FX/COMM) exotic financial derivative models for a Tier-1 US Investment Bank.
- Responsible for creating technical documentation and generating executive summary reports in LaTeX.
- Scrutiny of pricing methodology, model soundness and test suite design. Creating and executing calibration, benchmarking, computational performance, hedging, limiting cases, stability and convergence tests using C#/Excel.

Institute of Physics of Liquids and Biological Systems (IFLySiB)
La Plata, Buenos Aires, Argentina

PHYSICIST — *Aug. 2016 - Aug. 2017*

- MSc. in Physics graduate dissertation: Study of phase transitions of an Ising-type model with spin oriented dependent interaction parameters.

National University of La Plata (UNLP)
La Plata, Buenos Aires, Argentina

TEACHING ASSISTANT — *Sep. 2015 - Sep. 2017*

- Responsible for teaching fundamental physical concepts such as Classical Mechanics and Electromagnetism to undergraduate students.

Argentine Institute of Radio Astronomy (IAR)
Berazategui, Buenos Aires, Argentina

RESEARCH PROJECT COLLABORATOR — *Nov. 2014 - Dec. 2015*

- Responsible for the development of a software package that assess the possibility of radio emission detections from extensive air showers induced by cosmic rays.
- This work was presented as a poster at the 100th Annual meeting of the *Argentine Physics Association* (AFA) from the 22nd to 25th of September of 2015 in Villa de Merlo, San Luis, Argentina.

Education

National University of La Plata (UNLP)
La Plata, Buenos Aires, Argentina

MSC. IN PHYSICS — *Mar. 2010 - Aug. 2017*