Alexandre Brilhante

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http://github.com/brilhana

Education

Université de Montréal — Montréal, QC
Bachelor of Science, Computer Science — 2018

École des sciences de la gestion — Montréal, QC
Bachelor of Business Administration, Finance — 2012

Experience

National Bank of Canada — Montréal, QC
Big Data Developer, Market Risk and Data Mining — 2018

- Developed data processing and calculation jobs for historical and live financial market event streams using Java, Scala and Spark on an AWS cloud infrastructure.
- Supported and maintained a market data normalization pipeline to feed risk management software using Unix shell scripting and SQL.

Université de Montréal — Montréal, QC
Research Assistant, Department of Computer Science and Operations Research — 2017-2018

- Researched nonlinear stochastic programming methods for maximum likelihood estimation of large-scale multinomial mixed logit models.
- Proposed a novel approach based on stochastic gradient descent using the truncated conjugate gradient and benchmarked its estimation quality and convergence speed.

Open Source

DiscreteChoice.jl (author)

- Discrete choice modeling and estimation.

MarketTechnicals.jl (contributor)

- Technical analysis of financial time series.

Optim.jl (contributor)

- Unconstrained univariate and multivariate optimization.

OptionsPricing.jl (author)

- Pricing methods for vanilla and exotic options.

QuantEcon.jl (contributor)

- Quantitative economic modeling.

TimeSeries.jl (contributor)

- Framework for working with time series data.

Project

Neuropyschology

- Built a deep neural network model using TensorFlow to identify cognitive markers of dementia in REM sleep behavior disorder with 83% accuracy.

Skills

Programming: Julia, Python, Java, Scala, C#, MATLAB, R, JavaScript
Tools: TensorFlow, SQL, Git, KornShell
Languages: English, French, Portuguese

Activity

Co-Organizer, Montréal Julia Programming Language Meetup