

Calendario dei Seminari di Finanza Quantitativa In Prometeia

Mercoledì 24 Ottobre 2018, Ore 14:30

Tim Verdonck

Department of Mathematics, KU Leuven, Belgium

Title: Fraud detection using analytics

Abstract:

The Association of Certified Fraud Examiners estimates that fraud costs organizations worldwide \$3.7 trillion a year and that a typical company loses five percent of annual revenue due to fraud. Fraud attempts are expected to even increase further in future, making fraud detection highly necessary in most industries. A major challenge when building a supervised tool for fraud detection is the imbalance or skewness of the data. We review some methodologies to solve this issue. Moreover, we present unsupervised techniques from robust statistics and digit analysis to detect unusual observations that are likely associated with fraud. The discussed techniques can be applied across a wide variety of fraud applications, such as insurance fraud, credit card fraud, anti-money laundering, healthcare fraud, telecommunications fraud, click fraud, tax evasion, and counterfeiting

Mercoledì 30 Gennaio, 2019, Ore 14:30

Daniele Tantari

Department of Economics and Management

University of Florence

Title: Random models for financial networks: an application to the interbank market.

Abstract:

Finance provides a large set of situations where networks are present or can be constructed from data. A complex network representation of data focuses on the role of the interactions, beyond individuality, and allows microscopic predictions from the modeling of macroscopic structures. This can be done by introducing a class of random models with node-specific latent variables that can be used to both define macroscopic structures, detect them from data and modeling network dynamics. In this framework, I will discuss the problem of detecting macroscopic structures using the Stochastic Block Model and the problem of recognizing preferential relationships using a Dynamic Fitness model, with a particular focus on the e-MID interbank network.

Mercoledì 13 Febbraio, 2019, Ore 14:30

Fabrizio Lillo

Department of Mathematics,

University of Bologna

Title: *Financial Data Science*

Abstract: The huge increase in data availability and the digital revolution are drastically changing the financial system, creating new opportunities but also new risks. In this talk I will review some aspects of Financial Data Science focusing primarily on the assessment of risk at the individual and systemic level. In particular I will focus on the relation between information (from news, blogs, Twitter, etc.) and price and on the role of financial networks (payments, credit, etc) in propagating risk. Some of the methodological solutions to the above problems have a range of applicability beyond the financial domain.

Mercoledì 20 Marzo, 2019, Ore 14:30

Roy Cerqueti

*Dipartimento di Economia e Diritto
Universita' di Macerata*

Mercoledì 8 Maggio, 2019, Ore 14:30

Nikola Gradojevic

*Professor of Finance
College of Business and Economics
Department of Economics and Finance
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Guelph, Ontario, N1G 2W1, Canada*

Title: Artificial Intelligence (AI) and its applications in the finance industry

Abstract:

We have witnessed a rapid expansion of AI such as artificial neural networks and fuzzy logic controllers in the finance industry in recent years. Its use is expanding because of improvements in technology, deregulation of markets and increased competition. While AI systems are making the work of finance professionals easier, they are still supervised by humans and thus prone to errors that may potentially pose risks to the industry. This seminar will discuss both benefits and threats of the use of AI in the finance industry.