Workshop on “Big Data & Machine Learning Applications for Central Banks”
Rome, 21-22 October 2019
(Bank of Italy’s Conference Center “Carlo Azeglio Ciampi” – Via Nazionale, 190, Roma)

PROGRAM

Monday, 21 October 2019

8:30  Registration

Welcome address

9:00  Luigi Cannari
(Deputy Head of Directorate General for Economics, Statistics and Research, Bank of Italy)

Session 1: Text and Central Bank Communication

Chair:  Juri Marcucci (Bank of Italy)

9:15  Sentiment in central banks’ financial stability reports
Ricardo Correa (Federal Reserve Board)
Discussant: Giuseppe Bruno (Bank of Italy)

9:55  It’s not what they say it’s how they say it - the impact of the tone of ECB Governing Council speeches on financial markets
Conor Parle (Central Bank of Ireland)
Discussant: Ricardo Gimeno (Banco de España)

10:35  Coffee Break

Session 2: Text and Economics

Chair:  Gianni Amisano (Federal Reserve Board)

11:05  Deriving economic indicators from a large corpus of Italian documents
Pasquale Cariello (Bank of Italy)

11:25  News and Banks’ Equities: Do words have predictive power?
Valerio Astuti (Bank of Italy)
Discussant: Federico Maria Ferrara (European Central Bank)

Session 3: Big data and ML: experiences from other institutions

Chair:  Jermy Prenio (Bank for International Settlements)

12:00  Big Data & Machine Learning at the IMF
Marco Marini (International Monetary Fund)

12:20  Big Data, Machine Learning and Quantum Computing at Riksbank
Isaiah Hull (Sveriges Riksbank)
12:40 Lunch and Poster Session

Session 4: Forecasting with Machine Learning
Chair: Thomas Gottron (European Central Bank)

14:10 Neural Networks for Macroeconomic Forecasting
Sabina Marchetti (Bank of Italy)

14:30 Corporate Default Forecasting with Machine Learning
Mirko Moscatelli (Bank of Italy)
Discussant: Isaiah Hull (Sveriges Riksbank)

15:10 Forecasting Banknote Flows in the BDI Branch Network: speed up with Machine Learning
Marco Brandi (Bank of Italy)

Session 5: Big data for national statistics
Chair: Joseph Hickey (Bank of Canada)

15:30 Big data–based national statistical production
Alessandra Righi (ISTAT)
Discussant: Giuseppe Arbia (Catholic University of Milan)

16:10 Coffee Break

Session 6: Machine Learning, Suptech/Regtech and AML
Chair: Luca Onorante (European Central Bank)

16:40 Suptech applications in anti-money laundering: A review of best international practices
Jermy Prenio (Bank for International Settlements) and Marco De Simoni (UIF, Bank of Italy)

17:00 New Frontiers for Network Analysis in anti-money laundering: Challenges and Opportunities
Eleonora Laurenza (UIF, Bank of Italy)
Discussant: Dirk Broeders (De Nederlandsche Bank)

17:40 Panel Discussion: Other Central Banks’ perspective
Chair: Giuseppe Bruno (Bank of Italy).

Gianni Amisano (Federal Reserve Board), Dirk Broeders (De Nederlandsche Bank), Tobias Cagala (Deutsche Bundesbank), Vijay Chowdhury (Bank of England), Joseph Hickey & Patrick Labelle (Bank of Canada), Luca Onorante (European Central Bank), Javier Perez (Banco de España)

18:45 Aperitivo

19:30 End of first day
Tuesday, 22 October 2019

Session 7: Machine learning applications
Chair: Javier Perez (Banco de España)

8:30  Cross-country differences in the size of venture capital financing rounds. A machine learning approach
Marco Taboga (Bank of Italy)  
 Discussant: Tobias Cagala (Deutsche Bundesbank)

9:10  Institutional sector classifier: a machine learning application,  
Paolo Massaro (Bank of Italy) and Oliver Giudice (Bank of Italy)

9:30  Supervised Learning and Rare Events,  
Tobias Cagala (Deutsche Bundesbank)
 Discussant: Mirko Moscatelli (Bank of Italy)

10:10 Weaving the Property Graph of Company Ownships,  
Luigi Bellomarini (Bank of Italy)

10:30 Coffee Break

Session 8: Machine learning for statistical production
Chair: Conor Parle (Central Bank of Ireland)

11:00 Imputation Techniques for the Nationality of Foreign Shareholders in Italian Firms  
Andrea Carboni (Bank of Italy)  
 Discussant: Gianluca Cubadda (University of Rome Tor Vergata)

11:40 Quality checks on granular banking data: an experimental approach based on machine learning  
Fabio Zambuto (Bank of Italy)  
 Discussant: Roberto Rocci (Sapienza University of Rome)

Closing Remarks
12:20 Daniele Franco  
(Member of the Governing Board and Deputy Governor, Bank of Italy)

12:40 End of workshop

Organizing committee: Luigi Cannari, Pasquale Cariello, Giuseppe Bruno, Juri Marcucci.

The conference will be held in English language.¹
This program may be subject to change without notice.

¹ For logistic reasons, people interested to attend the workshop should send an email to both Giuseppe Bruno (Giuseppe.bruno@bancaditalia.it) and Juri Marcucci (juri.marcucci@bancaditalia.it).
Poster Session

1) “Policy Uncertainty and Consumer Card Payments”, Guerino Ardizzi◊, Simone Emiliozzi◊, Juri Marcucci◊, and Libero Monteforte* (*Bank of Italy, ´Parliamentary Budget Office)


3) “Selection of short term indicators in temporal disaggregating Italian national accounts”, Marianna Ascione*, and Filippo Moauro* (´ISTAT)

4) “The rental market in Italian cities”, Michele Loberto◊ (´Bank of Italy)

5) “How Much Information Do Monetary Policy Committees Disclose? Evidence from the FOMC’s Minutes and Transcripts”, Mikael Apel†, Marianna Blix Grimaldi†, and Isaiah Hull† (´Sveriges Riksbank)

6) “Anomaly detection in payment systems”, Luca Arciero*, Giuseppe Bruno◊, Sabina Marchetti◊, Juri Marcucci◊ (´Bank of Italy)

7) “Capital Flights and News, some Stylized Facts: An Empirical Study Using Daily Data Before and During the Greek Crisis” Petralias Athanassios*, and Papaspyrou Marios* (´Bank of Greece)

8) “Record Linking for Entities in RIAD using Deep Neural Networks”, Thomas Gottron* (´European Central Bank)


10) “A data-driven approach to build Financial index”, Alessandro Bitetto*, and Paola Cerchiello* (´University of Pavia)

11) “Large Files Technical Validation using MapReduce”, Armando Flores Diaz* (´Banco de México)

CONFERENCE INFORMATION:

Presentations in Plenary Sessions:

- Presentations with a discussant are expected to last 20 minutes, followed by a 10-minute discussion by the discussant and 10 minutes for general discussion from the audience.
- Presentations without a discussant are expected to last 15 minutes, followed by a 5-minute general discussion from the audience. The discussant in Sessions 2 and 6 will discuss both presentations.
- The panel discussion will be held under the Chatham House rule.

Poster Session: Poster should be B1, i.e. 70 cm x 100 cm either portrait or landscape and they will be attached on the wooden wall during the lunch break on October 21.

Conference venue: Centro Convegni "Carlo A. Ciampi", via Nazionale 190, 00184 Rome, Italy (Google maps link: https://goo.gl/maps/2ceXVWmh2b6NBAEF7)