

FNP-FNS 2020

**1st Joint Workshop on Financial Narrative
Processing and MultiLing Financial Summarisation**

Proceedings of the Workshop

December 12, 2020
Barcelona, Spain (Online)

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Preface

Welcome to the 1st Joint Workshop on financial Narrative Processing and MultiLing financial Summarisation (FNP-FNS 2020) held at COLING 2020 in Barcelona, Spain. For future readers, it is worth noting that the workshop as well as the main conference were held as virtual events due to travel restrictions caused by the COVID-19 pandemic.

Following the success of the First FNP 2018 at LREC'18 in Japan, the Second FNP 2019 at NoDaLiDa 2019 in Finland and as well as the Multiling 2019 financial narrative Summarisation task at RANLP in Bulgaria, we have received a great deal of positive feedback and interest in continuing the development of the financial narrative processing field, especially from our shared task participants. This has resulted in a collaborative workshop between the FNP and MultiLing workshop series to co-organise the 1st Joint Workshop on financial Narrative Processing and MultiLing financial Summarisation (FNP-FNS 2020).

The 1st FNP-FNS workshop achieved our aim of supporting the rapidly growing area of financial text mining. We ran three different shared tasks focusing on text summarisation, structure detection and causal sentence detection, namely FNS, FinToc and FinCausal shared tasks respectively. The shared tasks attracted more than 100 teams from different universities and organisations around the globe. The shared tasks resulted in the first large scale experimental results and state of the art methods applied mainly to financial data. This shows the importance and growth of this field and we want to continue to be associated with top NLP venues.

The joint workshop focused mainly on the use of Natural Language Processing (NLP), Machine Learning (ML), and Corpus Linguistics (CL) methods related to all aspects of financial text summarisation, text mining and financial narrative processing (FNP). There is a growing interest in the application of automatic and computer-aided approaches for extracting, summarising, and analysing both qualitative and quantitative financial data. In recent years, previous manual small-scale research in the Accounting and Finance literature has been scaled up with the aid of NLP and ML methods, for example to examine approaches to retrieving structured content from financial reports, and to study the causes and consequences of corporate disclosure and financial reporting outcomes.

The workshop organisers collaborated with two Artificial Intelligence (AI) firms: Fortia financial Solutions (www.fortia.fr) and Yseop (www.yseop.com). Both firms are pioneers in Artificial Intelligence, NLP and Natural Language Generation (NLG). Both firms work on applying those methods to automatically analyse and extract from financial documents and disclosures.

We accepted 36 submissions to be presented in online oral and poster presentations. Each paper was reviewed by up to three reviewers. The submissions distribution is as follows: 6 main workshop papers and 30 shared task papers as follows: 10 papers accepted by the FNS shared task, 14 by the FinCausal shared task and 6 by the FinTOC shared task. Papers accepted in the main workshop were presented orally. All shared task papers were presented in 3 different poster sessions, one for each shared task. The papers covered a diverse set of topics in financial narratives processing reporting work on financial reports from different stock markets around the globe presenting analysis of financial reports and using state of the art NLP methods such as the use of latest word embeddings. The quantity and quality of the contributions to the workshop are strong indicators that there is a continuing and growing interest in the field of financial Natural Language Processing.

I would like to acknowledge all the hard work by the programme committee to make FNP-FNS a great success regardless of the challenging situations. I would also like to thank the submitting authors and the reviewers for the valuable feedback they provided. I hope these proceedings will serve as a valuable

reference for researchers and practitioners in the field of financial narrative processing and NLP in general.

Dr Mahmoud El-Haj, General Chair, on behalf of the organizers of the FNP-FNS workshop, December 2020.

Workshop Organizers:

Dr Mahmoud El-Haj, Lancaster University (General Chair)
Dr Vasiliki Athanasakou, Saint Mary's University (FNP-FNS Program Chair and Advisor)
Dr Sira Ferradans (Publication Chair)
Dr Catherine Salzedo, Lancaster University (FNP-FNS Publicity Chair)
Dr Ans Elhag, Lancaster University (FNP-FNS Publication Chair)
Dr Houda Bouamor, CMU, Qatar (FNP Program Chair)
Dr Marina Litvak, Shamoon Academic College of Engineering (FNS Program Chair)
Dr Paul Rayson, Lancaster University (FNP Program Chair)
Dr George Giannakopoulos, NCSR Demokritos (FNS Program Chair)

Shared Task Organizers:

Dr Dialekti Valsamou, Fortia Financial Solutions (FinToc Shared Task Organiser)
Dr Ismail El Maarouf, Fortia Financial Solution (FinToc Shared Task Organiser)
Najah-Imane Bentabet, Fortia Financial Solution (FinToc Shared Task Organiser)
Remi Juge, Fortia Financial Solution (FinToc Shared Task Organiser)
Ahmed AbuRaed, Universitat Pompeu Fabra (FNS Shared Task Organiser)
Nikiforos Pittaras, NCSR Demokritos (Publicity Chair and FNS Shared Task Organiser)
Dominique Mariko, Yseop Lab (FinCausal Shared Task Organizer)
Hanna Abi-Akl, Yseop Lab (FinCausal Shared Task Organizer)
Hugues de Mazancourt, Yseop Lab (FinCausal Shared Task Organizer)
Estelle Labidurie, Yseop Lab (FinCausal Shared Task Organizer)
Stephane Durfort, Yseop Lab (FinCausal Shared Task Organizer)

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FNP-FNS 2020 Workshop Program

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12:00–12:55 *Keynote Speaker*
Dr Ana Gisbert

13:00–13:19 Session 1: Shared Tasks Introduction

13:00–13:05 *The Financial Narrative Summarisation Shared Task (FNS 2020)*
Mahmoud El-Haj, Ahmed AbuRa'ed, Marina Litvak, Nikiforos Pittaras and George Giannakopoulos

13:07–13:12 *The Financial Document Structure Extraction Shared task (FinToc 2020)*
Najah-Imane Bentabet, Rémi JUGE, Ismail El Maarouf, Virginie Mouilleron, Di-alekti Valsamou-Stanislawski and Mahmoud El-Haj

13:14–13:19 *The Financial Document Causality Detection Shared Task (FinCausal 2020)*
Dominique Mariko, Hanna Abi-Akl, Estelle Labidurie, Stephane Durfort, Hugues De Mazancourt and Mahmoud El-Haj

13:20–14:50 Session 2: Financial Document Causality Detection (FinCausal)

13:20–14:50 *LangResearchLab_NC at FinCausal 2020, Task 1: A Knowledge Induced Neural Net for Causality Detection*
Raksha Agarwal, Ishaan Verma and Niladri Chatterjee

13:20–14:50 *GBe at FinCausal 2020, Task 2: Span-based Causality Extraction for Financial Documents*
Guillaume Becquin

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Denis Gordeev, Adis Davletov, Alexey Rey and Nikolay Arefiev

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Toshiya Imoto and Tomoki Ito

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13:20–14:50 *NITK NLP at FinCausal-2020 Task 1 Using BERT and Linear models.*
Hariharan R L and Anand Kumar M

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- 13:20–14:50 *IITkgp at FinCausal 2020, Shared Task 1: Causality Detection using Sentence Embeddings in Financial Reports*
Arka Mitra, Harshvardhan Srivastava and Yugam Tiwari
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- 14:50–15:50 *Extractive Financial Narrative Summarisation based on DPPs*
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- 14:50–15:50 *PoinT-5: Pointer Network and T-5 based Financial Narrative Summarisation*
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- 14:50–15:50 *SCE-SUMMARY at the FNS 2020 shared task*
Marina Litvak, Natalia Vanetik and Zvi Puchinsky
- 14:50–15:50 *Knowledge Graph and Deep Neural Network for Extractive Text Summarization by Utilizing Triples*
Amit Vhatkar, Pushpak Bhattacharyya and Kavi Arya
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Abderrahim Ait Azzi and Juyeon Kang
- 14:50–15:50 *SUMSUM@FNS-2020 Shared Task*
Siyan Zheng, Anneliese Lu and Claire Cardie
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- 15:50–16:20 *AMEX-AI-LABS: Investigating Transfer Learning for Title Detection in Table of Contents Generation*
Dhruv Premi, Amogh Badugu and Himanshu Sharad Bhatt
- 15:50–16:20 *UWB@FinTOC-2020 Shared Task: Financial Document Title Detection*
Tomáš Hercig and Pavel Kral
- 15:50–16:20 *Taxy.io@FinTOC-2020: Multilingual Document Structure Extraction using Transfer Learning*
Frederic Haase and Steffen Kirchhoff
- 15:50–16:20 *DNLP@FinTOC'20: Table of Contents Detection in Financial Documents*
Dijana Kosmajac, Stacey Taylor and Mozghan Saeidi
- 15:50–16:20 *Daniel@FinTOC'2 Shared Task: Title Detection and Structure Extraction*
Emmanuel Giguët, Gaël Lejeune and Jean-Baptiste Tanguy
- 16:20–16:30 Break**

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Felix Armbrust, Henry Schäfer and Roman Klinger

16:37–16:42 *Information Extraction from Federal Open Market Committee Statements*
Oana Frunza

16:44–16:49 *Mitigating Silence in Compliance Terminology during Parsing of Utterances*
Esme Manandise and Conrad de Peuter

16:51–16:56 *Hierarchical summarization of financial reports with RUNNER*
Marina Litvak, Natalia Vanetik and Zvi Puchinsky

16:58–17:03 *Predicting Modality in Financial Dialogue*
Kilian Theil and Heiner Stuckenschmidt

17:05–17:10 *Extracting Fine-Grained Economic Events from Business News*
Gilles Jacobs and Veronique Hoste

17:10–17:15 Short Break

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17:15–18:00 Session 6: Open Discussion

17:15–18:00 *Open Discussion*
Mahmoud El-Haj and Paul Rayson

