

Ilias Chalkidis

NLP

Researcher /
Enthusiast

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Short Bio - Skills

I am currently studying for a PhD under the title of “Deep Neural Networks for Information Mining from legal texts” at the Department of Informatics in Athens University of Economics and Business under the supervision of Prof. Ion Androutsopoulos and Nikolaos Aletras, while I’m also working as a doctoral researcher in National Centre for Scientific Research (NCSR) “Demokritos” and an AI consultant at Cognitiv+. In 2016, I finished my MSc degree in Computer Science specializing in Advanced Information Systems, while working as a research associate on legal knowledge representation. I expertise in legal natural language processing (AI & Law) and I am looking forward to enhancing my understanding of NLP and AI in general through different approaches. I have been a reviewer for ACL 2020 and EMNLP 2020 conferences and AI & Law journal, while I have also served and currently serve in the program committees of AI and NLP workshops targeting legal applications:

- International Workshop on AI Technologies for Legal Documents (AI4LEGAL) 2020 - co-located with ISWC 2020 (*Held online due to COVID-19*).
- 1st Workshop on Natural Legal Language Processing (NLLP) 2019 - co-located with NAACL 2019 in Minneapolis, Minnesota, USA.
- 2nd Workshop on Natural Legal Language Processing (NLLP) 2020 - co-located with KDD 2020 (*Held online due to COVID-19*).

Technical Skills:

- Advanced Programming Skills (Python)
- ML / DL background (Tensorflow 2, SciKit Learn, PyTorch)
- Web Dev. Frameworks know-how (Spring MVC, Spring REST)
- Semantic Web technologies background (OWL, RDF)

Collaboration Skills:

- Teamwork player & Leadership skills on IT (mainly on AI/NLP)
- Ability to cooperate from distance (remotely) - WFH for 2+ years, before it was cool!
- Experience working with Agile, don't like it though... after all you can't be a master of all in the 21st century...
- Love interesting / engaging meetings, hate the rest of them...
- Experience on high-level business meeting and presentations with top-tier clients (banks, insurance/consulting companies).
- I'm pretty good at working independently, taking decisions, moving forward without intense supervision.

Experience

NCSR “Demokritos” - DICE / Doctoral Researcher (NLP)

DECEMBER 2019 - UP-TO-DATE, ATHENS

I am currently part of Document Intelligence Centre of Excellence (DICE), a collaborative research group between NCSR “Demokritos” and Ernst & Young (EY) US. My role is to study, design and implement NLP solutions for use cases in the legal and finance domains. So far this includes curating datasets, studying the literature and implementing ML (mostly DL) models to experiment with and solve the targeted tasks.

Accomplishments

- Leading research projects.
- 4/5 conference papers submitted and accepted so far.

Cognitiv+ / AI Consultant

OCTOBER 2019 - UP-TO-DATE, LONDON (REMOTE FROM ATHENS)

My current role is to curate the strategy of the data science department and consult its members, both in NLP and CV, in order to successfully proceed with the current and future use cases and bring new features to the product.

Accomplishments

- Leading a group of 4 data scientists (NLP/CV)
- Reviewing clients requests for features.
- Consulting the firm for dos and don'ts.

Cognitiv+ / Data Scientist - Head of Data Science (NLP)

APRIL 2016 - SEPTEMBER 2019, LONDON (REMOTE FROM ATHENS)

The work circle included various tasks relevant to document intelligence to support the newly developed Cognitiv+ contract management platform. The ML-NLP solutions were based on advanced machine learning approaches, mostly deep learning. I started as a solo data scientist and quickly developed into the lead in a data science team consisting of 4 data scientists / researchers.

Accomplishments

- Orchestrating challenging annotation projects.
- Resolving automated contract structure identification using an ML/DL pipeline.
- Deployment of state-of-the-art contract element extractors and sentence/paragraph classifiers.
- 3 conference papers published, describing in-domain applications.

National and Kapodistrian University of Athens / Research Associate (Semantic Web)

FEBRUARY 2015 - JANUARY 2017, ATHENS

I was working as a research assistant on MaDGIK group (<http://www.madgik.di.uoa.gr/>) and especially on the Semantic Web Technologies Lab under Prof. Manolis Koubarakis.

Accomplishments

- Model Greek Legislation with Semantic Web Technologies (OWL,RDFS)
- Implement Nomothesi@ RESTful API - web platform (<http://legislation.di.uoa.gr>)
- Create Nomothesi@ parser (parsed over 5,000 acts)
- Enhance Nomothesi@ parser with Named Entity Recognizer for persons, organizations and places and full-text indexing.

Education*

** All my CS diplomas are originally written in Greek, in other words they are all Greek to you... Official English translations can be provided upon request.*

- Athens University of Economics and Business / Doctor of Philosophy (PhD), Informatics

PENDING EARLY 2021 , ATHENS

Serving as a Teaching / Lab Assistant:

- Language Technology (MSc program) (2016 - *up-to-date*)
- Human - Computer Interaction (BSc program) (2016 - *up-to-date*)
- DataBases (BSc program) (2016 - *up-to-date*)

Also served as a co-supervisor on three (3) MSc theses:

- "Legal Text Classification on Greek Legislation based on the Greek Legal Code", C. Papaloukas, (2020)
- "Named Entity Recognition, Linking and Generation for Greek Legislation", I. Angelidis, (2018)
- "Data augmentation techniques for legal text analytics", M. Papadaki (2017)

- National and Kapodistrian University of Athens / Master of Science (MSc), Advanced Information Systems

2016, ATHENS

Served as a Teaching Assistant on:

- Knowledge Technologies (MSc program) (2016-2017)
- Artificial intelligence (AI) (BSc program) (2015-2016, 2016-2017)
- Systems Analysis (Structured Analysis and Design, UML) (BSc program) (2015-2016)

Also served as a co-supervisor on two (2) BSc theses:

- "Nomothesi@ API - Reengineering the Electronic Platform", P. Soursos, (2015)
- "News Articles Representation using BBC Ontologies ", E. Giama, (2016)

- National and Kapodistrian University of Athens / Bachelor of Science (BSc), Informatics and Telecommunications

2014, ATHENS

- Extra specialization (Former Curriculum): "Computer Systems & Applications"
- Extra specialization (Active Curriculum): "Data and Knowledge Management"

Publications

- **Layer-wise Guided Training for BERT: Learning Incrementally Refined Document Representations.** Nikolaos Manginas, Ilias Chalkidis and Prodromos Malakasiotis. In the Proceedings of the Workshop on Structured Prediction for NLP (SPNLP 2020) - co-located with the EMNLP 2020, (*Held online due to COVID-19*), November 16–20, 2020. [Arxiv pre-print pending]
- **An Empirical Study on Large-Scale Multi-Label Text Classification Including Few and Zero-Shot Labels.** Ilias Chalkidis, Manos Fergadiotis, Sotiris Kotitsas, Prodromos Malakasiotis, Nikolaos Aletras and Ion Androutsopoulos. In the Proceedings of the Conference on Empirical Methods in Natural Language Processing (EMNLP 2020), (*Held online due to COVID-19*), November 16–20, 2020. [Arxiv pre-print pending]
- **LEGAL-BERT: "The Muppets straight out of Law School".** Ilias Chalkidis, Manos Fergadiotis, Prodromos Malakasiotis, Nikolaos Aletras and Ion Androutsopoulos. In Findings of Empirical Methods in Natural Language Processing (EMNLP 2020), November 16–20, 2020. [Arxiv pre-print pending]
- **Greek-BERT: The Greeks Visiting Sesame Street.** John Koutsikakis, Ilias Chalkidis, Prodromos Malakasiotis and Ion Androutsopoulos. In the Proceedings of the 11th Hellenic Conference on Artificial Intelligence (SETN 2020) (*Held online due to COVID-19*), September 2-4, 2020. [\[Link\]](#)
- **Neural Contract Element Extraction Revisited.** Ilias Chalkidis, Manos Fergadiotis, Prodromos Malakasiotis and Ion Androutsopoulos. In the Proceedings of the Document Intelligence Workshop - co-located with the 33rd Conference on Neural Information Processing Systems (NeurIPS 2019), Vancouver, Canada, December 14, 2019. [\[Link\]](#)
- **Large-Scale Multi-Label Text Classification on EU Legislation.** Ilias Chalkidis, Manos Fergadiotis, Prodromos Malakasiotis and Ion Androutsopoulos. In the Proceedings of the 57th Annual Meeting of the Association for Computational Linguistics (ACL 2019), Florence, Italy, July 28 - August 2, 2019. [\[Link\]](#)
- **Neural Legal Judgment Prediction in English.** Ilias Chalkidis, Ion Androutsopoulos and Nikolaos Aletras. In the Proceedings of the 57th Annual Meeting of the Association for Computational Linguistics (ACL 2019), Florence, Italy, July 28 - August 2, 2019. [\[Link\]](#)
- **Extreme Multi-Label Legal Text Classification: A case study in EU Legislation.** Ilias Chalkidis, Manos Fergadiotis, Prodromos Malakasiotis, Nikolaos Aletras and Ion Androutsopoulos. In the Proceedings of the Workshop on Natural Legal Language Processing - co-located with NAACL-HLT 2019, Minneapolis, USA, June 2-7, 2019. [\[Link\]](#)
- **Towards a Decentralized, Trusted, Intelligent and Linked Public Sector: A Report from the Greek Trenches.** Themis Beris, Iosif Angelidis, Ilias Chalkidis, Charalampos Nikolau, Christos Papaloukas, Panagiotis Soursos and Manolis Koubarakis. In the Proceedings of the Workshop on Linked Data on the Web and its Relationship with Distributed Ledgers (LDOW/LDDL) - co-located with the Web Conference 2019, San Francisco, USA, May 13-17, 2019. [\[Link\]](#)
- **Named Entity Recognition, Linking and Generation for Greek Legislation.** Iosif Angelidis, Ilias Chalkidis and Manolis Koubarakis. In the Proceedings of the 31st International Conference on Legal Knowledge and Information Systems (JURIX 2018), Groningen, The Netherlands, December 12-14, 2018. [\[Link\]](#)
- **Deep Learning in Law: Early Adaptation and Legal Word Embeddings Trained on Large Corpora.** Ilias Chalkidis and Dimitrios Kampas. In Artificial Intelligence and Law, Volume 27:2, Pages 171–198, Springer, December 11, 2018. [\[Link\]](#)

- **Obligation and Prohibition Extraction Using Hierarchical RNNs.** Ilias Chalkidis, Ion Androutsopoulos and Achilleas Michos. In the Proceedings of the 56th Annual Meeting of the Association for Computational Linguistics (ACL 2018), Melbourne, Australia, July 15-20, 2018. Pages 254–259 . 2018. [\[Link\]](#)
- **A Deep Learning Approach to Contract Element Extraction.** Ilias Chalkidis and Ion Androutsopoulos. In the Proceedings of the 30th International Conference on Legal Knowledge and Information Systems (JURIX 2017), Luxembourg City, Luxembourg, December 13-15, 2017. 2017. [\[Link\]](#)
- **Extracting Contract Elements.** Ilias Chalkidis, Ion Androutsopoulos and Achilleas Michos. In Proceedings of the 16th International Conference on Artificial Intelligence and Law (ICAIL 2017), London, UK, June 12–16, 2017, Pages 19–28. 2017. [\[Link\]](#)
- **Modeling and Querying Greek Legislation using Semantic Web Technologies.** Ilias Chalkidis, Charalampos Nikolaou, Panagiotis Soursos and Manolis Koubarakis. In the Proceedings of the 14th European Semantic Web Conference (ESWC 2017), Portorož, Slovenia, May 28 – June 1, 2017. Pages 591–606. 2017. [\[Link\]](#)

On-going projects

- Legal Document to Document Retrieval.
- Paragraph-level Rationale Extraction on Legal Documents.
- “Honest” zero-shot text classification / evaluation.

Languages

- Greek (Native Speaker)
- English (Excellent)
- Spanish (Un poco, no entiendo)

Other Interests

- Proud English bulldog father.
- Kind of a gamer - Nintendo addict.
- Travel all around the world, broaden my horizons (17 countries in Europe, Northern America and Australia, many more to come in the future).
- Supporting / Promoting the inclusion of under-represented groups (women, LGBTQ, people of colour) in IT environments. Interested to help more on that front in the near future.