

florian leitner

data scientist

contact

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home://fnl.es
work://github.com/fnl

languages

German: native
speaker

English: master (s/r/w)

Spanish: proficient
(s/r/w)

computing

scientific computing: R,
SciPy, GNU/POSIX

data engineering:
PostgreSQL, SQLite,
MongoDB, CouchDB

language processing:
UIMA, GATE, NLTK,
Lucene, Factorie

distributed computing:
Spark, OrientDB,
ElasticSearch

web & GUI
deployments: Qt,
Django, Twisted,
Node.js, Struts

software development:
Git, Jenkins, Travis,
Chef

profile

Bioinformatics and molecular biology.

Machine learning for data and text mining.

Query engine and information extraction development.

Distributed services and parallel high-performance computing.

Excellent communication, planning, and organization skills.

experience

- | | | |
|-----------|---|---------------------|
| 2014–now | Technical University of Madrid (UPM)
Juan de la Cierva research fellow (Data mining software development)
Development of an integrated text mining/information extraction system for neurobiology with Scala (Factorie, Hadoop/Spark), Python (brat, SciKit-Learn) and R for data visualization. Teaching machine learning and text mining to students. | Madrid, Spain |
| 2013–2014 | National Cancer Research Centre (CNIO)
Post-doc (Data mining & NLP software development)
Development of a large-scale text mining/information extraction pipeline in Java (UIMA), Scala (Hadoop/Spark), C/C++ (var. machine learning libraries) and Python (SciKit-Learn) for genome-wide transcription regulation interactions. | Madrid, Spain |
| 2006–2013 | National Cancer Research Centre (CNIO)
PhD student (Bioinformatics software development)
Designer and lead of a dozen international research teams that implemented the BioCreative Meta-Server (Python/Django, Postgres, Java). Co- and main organizer of large, international scientific community challenges: BioCreative II (co), II.5 (main), III (co), and IV (co). Development of the BioCreative web site (www.biocreative.org) and team management interface (Python/Django, Postgres). Exploratory data analyses and evaluations in R. | Madrid, Spain |
| 2003–2006 | Institute for Molecular Pathology (IMP)
MSc student (Database administration and software/web development)
Data acquisition and import from biological resources (e.g., parser development) in Perl and LISP; Web-based data visualization (Apache Struts) for an in-house bioinformatics framework ("Annotator"). Design and implementation of an indexing engine and the query interface with Apache Lucene. | Vienna, Austria |
| 2003–2003 | CSO Lanifex GmbH
Consultant (Linux kernel and Firefox browser customization)
Development of a specialized VPN network for the Austrian National Bank (Linux kernel modifications and adapting the Mozilla framework as a GUI for the thin clients). Contributions to the Vienna United Nations intranet web-site (MySQL). | Vienna, Austria |
| 2002–2003 | European Media Labs (EML)
Python/Java application developer
Development of a 3D visualization plug-in for annotations of protein structures (Java). Installation and administration of Python libraries for Structural Biology. | Heidelberg, Germany |
| 2001–2002 | Novartis Research Institute
Web developer and database administration
Development of a Perl-based bioinformatics framework for a large Alpha cluster. | Vienna, Austria |

education

2012	PhD Bioinformatics, with distinction Online assessment of protein interaction information extraction systems.	Autonomous University of Madrid (UAM), Spain
2006	MSc Molecular Biology, with distinction Integration of biological databases and mining for post-translational modifications.	Vienna University, Austria
1995	Advertisement & Design School Werbe- und Design Akademie	Innsbruck, Austria
1994	Business High-school Handelsschule Innsbruck	Innsbruck, Austria

accomplishments

2014	Machine Learning completed with 100+/100 total score	Stanford/Coursera MOOC
2013	Special Award - Premio Extraordinario for my PhD thesis work	Autonomous University of Madrid (UAM)
2012	Speed Reading accredited final reading speed: 2000 words/minute	Programa Integral de Lectura
2012	Natural Language Processing completed with 88/100 total score	Stanford/Coursera MOOC
2009	Main Conference Organizer three-day conference with nearly 100 participants	BioCreative, CNIO, Madrid
2009	Services Cup 3 rd place behind competitors from SAP and IBM	IEEE Services-I World Conference

communication skills

2015	Invited Talk The BioCreative challenges: Critical assessments of biomedical information extraction.	Jornada de Tecnología y Salud, Real Academia de Ingeniería, Madrid, Spain
2014	Invited Talk From the BioCreative challenges to transcription regulation network extraction.	Institute for Computational Linguistics (UZH), Zurich, Switzerland
2014	Progress Report Retracing transcription regulation networks.	National Cancer Research Centre (CNIO), Madrid, Spain
2013	Presentation Mining cis-regulatory transcription networks from literature.	BioLINK @ Intelligent Systems for Molecular Biology (ISMB), Berlin, Germany
2013	Panel Host Integration across genomics and medicine.	BioLINK @ Intelligent Systems for Molecular Biology (ISMB), Vienna, Austria
2011	Invited Talk Annotating scientific manuscripts and the role of text-mining.	FEBS Journal Board Meeting, Cambridge, UK
2010	Progress Report Making biological information accessible.	National Cancer Research Centre (CNIO), Madrid, Spain
2010	Presentation Comparative community assessments for applied biomedical text mining.	Intelligent Systems for Molecular Biology (ISMB), Stockholm, Sweden
2009	Presentation The BioCreative Meta-Server platform.	Semantic Mining in Biomedicine (SMBM), Turku, Finland
2008–2013	Presentations Various presentations throughout the BC II-IV workshops (see conference proceedings).	BioCreative, Madrid, Spain and Bethesda, MD, USA

publications

journal articles

CHEMDNER: The drugs and chemical names extraction challenge

M Krallinger, F Leitner, O Rabal, M Vazquez, J Oyarzabal, A Valencia

Journal of Cheminformatics 7.Suppl 1 (2015) S1. 2015

The CHEMDNER corpus of chemicals and drugs and its annotation principles

M Krallinger, O Rabal, F Leitner, M Vazquez, D Salgado, ... J Oyarzabal, A Valencia

Journal of Cheminformatics 7.Suppl 1 (2015) S2. 2015

BioC: a minimalist approach to interoperability for biomedical text processing

DC Comeau, R Islamaj Dogan, P Ciccarese, KB Cohen, M Krallinger, F Leitner, ... WJ Wilbur

Database 2013 (Sept. 2013) bat064–bat064. 2013

MyMiner: a web application for computer-assisted biocuration and text annotation

D Salgado, M Krallinger, M Depaule, E Drula, A Tendulkar, F Leitner, A Valencia, C Marcelle

Bioinformatics (2012) bts435. 2012

How to link ontologies and protein-protein interactions to literature: text-mining approaches and the BioCreative experience.

M Krallinger, F Leitner, M Vazquez, D Salgado, C Marcelle, M Tyers, A Valencia, A Chatr-Aryamontri

Database 2012 (2012) bas017. 2012

Text Mining for Drugs and Chemical Compounds: Methods, Tools and Applications

M. Vazquez, M Krallinger, F Leitner, A Valencia

Molecular Informatics 30.6-7 (2011) pp. 506–519. 2011

The Protein-Protein Interaction tasks of BioCreative III: classification/ranking of articles and linking bio-ontology concepts to full text

Martin Krallinger, Miguel Vazquez, Florian Leitner, ... Alfonso Valencia

BMC Bioinformatics 12.Suppl 8 (2011) S3. 2011

The FEBS Letters SDA corpus.

Florian Leitner, Martin Krallinger, Gianni Cesareni, Alfonso Valencia

FEBS Letters 584.19 (Oct. 2010) pp. 4129–4130. 2010

An Overview of BioCreative II.5.

Florian Leitner, Scott A Mardis, Martin Krallinger, Gianni Cesareni, Lynette A Hirschman, Alfonso Valencia

IEEE/ACM Transactions on Computational Biology and Bioinformatics 7.3 (June 2010) pp. 385–399. 2010

The PPI affix dictionary (PPIAD) and BioMethod lexicon

M Krallinger, AV Tendulkar, F Leitner, A Chatr-aryamontri, A Valencia

BMC Bioinformatics 11 (2010) pp. 1–3. 2010

The FEBS Letters/BioCreative II.5 experiment: making biological information accessible

F Leitner, A Chatr-Aryamontri, SA Mardis, A Ceol, M Krallinger, L Licata, L Hirschman, G Cesareni, A Valencia

Nature Biotechnology 28.9 (2010) pp. 897–899. 2010

A text-mining perspective on the requirements for electronically annotated abstracts.

Florian Leitner, Alfonso Valencia

FEBS Letters 582.8 (Apr. 2008) pp. 1178–1181. 2008

Overview of the protein-protein interaction annotation extraction task of BioCreative II.

Martin Krallinger, Florian Leitner, Carlos Rodriguez-Penagos, Alfonso Valencia

Genome Biology 9 Suppl 2 (2008) S4. 2008

Evaluation of text-mining systems for biology: overview of the Second BioCreative community challenge.

M Krallinger, A Morgan, L Smith, F Leitner, L Tanabe, J Wilbur, L Hirschman, A Valencia

Genome Biology 9 Suppl 2 (2008) S1. 2008

Introducing meta-services for biomedical information extraction.

F Leitner, M Krallinger, C Rodriguez-Penagos, J Hakenberg, ... C Sander, A Valencia

Genome Biology 9 Suppl 2 (2008) S6. 2008

ProSAT: functional annotation of protein 3D structures.

Razif R Gabdoulline, René Hoffmann, Florian Leitner, Rebecca C Wade
Bioinformatics 19.13 (Sept. 2003) pp. 1723–1725. 2003

book chapters

BioCreative II.5 and the FEBS Letters Experiment on Structured Digital Abstracts

Florian Leitner, Martin Krallinger, Valencia Alfonso
Encyclopedia of Systems Biology pp. 101–106, 2013, Springer New York

BioCreative Meta-Server and Text-Mining Interoperability Standard

Florian Leitner, Martin Krallinger, Valencia Alfonso
Encyclopedia of Systems Biology pp. 106–110, 2013, Springer New York

Analysis of Biological Processes and Diseases Using Text Mining Approaches

Martin Krallinger, Florian Leitner, Alfonso Valencia
Methods in Molecular Biology pp. 341–382, 2010, Humana Press

Biological Knowledge Extraction

Florian Leitner, Robert Hoffmann, Alfonso Valencia
Bioinformatics for Systems Biology pp. 413–433, 2009, Humana Press

conference proceedings

Retrieval and Discovery of Cell Cycle Literature and Proteins by Means of Machine Learning, Text Mining and Network Analysis

Martin Krallinger, Florian Leitner, Alfonso Valencia
8th International Conference on Practical Applications of Computational Biology & Bioinformatics, 2014

Overview of the chemical compound and drug name recognition (CHEMDNER) task

Martin Krallinger, Florian Leitner, Obdulia Rabal, Miguel Vazquez, Julen Oyarzabal, Alfonso Valencia
BioCreative IV Challenge Evaluation Workshop, 2013

Mining cis-Regulatory Transcription Networks from Literature

Florian Leitner, Martin Krallinger, Sushil Tripathi, Martin Kuiper, Astrid Lægreid, Alfonso Valencia
Proceedings of the ISMB BioLINK SIG, 2013

Results of the BioCreative III Interaction Method Task

Martin Krallinger, Miguel Vazquez, Florian Leitner, Alfonso Valencia
Proceedings of the BioCreative III Challenge Evaluation Workshop, 2010

The BioCreative II.5 challenge overview

Martin Krallinger, Florian Leitner, Alfonso Valencia
Proceedings of the BioCreative II.5 Challenge Evaluation Workshop, 2009

BioCreative II.5: Evaluation and ensemble system performance

Scott Mardis, Florian Leitner, Lynette Hirschman
Proceedings of the BioCreative II.5 Challenge Evaluation Workshop, 2009

SOA-Based Integration of Text Mining Services

Johann Starlinger, Florian Leitner, Alfonso Valencia, Ulf Leser
Proceedings of the 2009 World Conference on Services, 2009

Exploiting text mining of biological annotations to extract protein interactions for the Semantic web

Martin Krallinger, Carlos Rodriguez-Penagos, Florian Leitner, Alfonso Valencia
Seventh International Workshop on Network Tools and Applications in Biology, 2007

Assessment of the second BioCreative PPI task: automatic extraction of protein-protein interactions

Martin Krallinger, Florian Leitner, Alfonso Valencia
Proceedings of the second BioCreative Challenge Evaluation Workshop, 2007