

ALESSANDRO GIULIANI

CURRICULUM VITAE

CONTACT INFORMATION

Professional title: Ph.D.

E-mail: alessandro.giuliani@unica.it

Citizenship: Italian

Languages: Italian (natural), English (advanced), Spanish (basic)

RESEARCH BACKGROUND

Senior Machine Learning Engineer

8+ years experienced post-doctoral researcher, highly adept at Machine Learning, Information Retrieval, Data Mining and Data Visualization. Ability to apply algorithms and techniques to real world problems. Strong background in Python programming skills.

RESEARCH SKILLS

Research Topics	Machine Learning, Information Retrieval, Data Mining, Recommender Systems
Application Fields	Text Mining and Categorization, Semantic Analysis, Bioinformatics Multimedia, Web Engineering, Knowledge Discovery, Data Analytics, Online Advertising
Algorithms	Supervised Learning, Unsupervised Learning, Ensemble Learning, Deep Learning, Feature Selection and Extraction
Research Planning	Identifying problems, gathering information, system developing, testing and evaluating, calculating results
Communication skills	Reading, understanding, writing, and disseminate scientific and technical documentation

TECHNICAL AND PROGRAMMING SKILLS

Computer Languages	Python (advanced knowledge), Java (very good knowledge) C++, C (good knowledge) R, SmallTalk, Pig Latin, HTML CSS (basic knowledge)
Protocols & APIs	XML, JSON
Database Management	MySQL, PostgreSQL
Packages and Frameworks	Scikit-learn, Pandas, Matplotlib, SQLAlchemy, Keras, Orange Weka, Jupyter notebook
IDEs	Anaconda, Eclipse, Netbeans

RESEARCH EXPERIENCE

PERIOD	March 2012 — March 2020	
POSITION	Post-doctoral researcher	
INSTITUTION	Department of Electrical and Electronic Engineering, University of Cagliari	Cagliari, Italy
PERIOD	March 2009 — February 2012	
POSITION	Ph.D. student	
INSTITUTION	Department of Electrical and Electronic Engineering, University of Cagliari	Cagliari, Italy
PERIOD	September 2008 — February 2009	
POSITION	Junior developer	
INSTITUTION	Department of Electrical and Electronic Engineering, University of Cagliari	Cagliari, Italy

RESEARCH PROJECTS AS PARTICIPANT

PROJECT	INSIEME: INtelligent Systems for Integrated hEalth ManagemEnt	
PERIOD	January 2018 — March 2020	
POSITION	Post-doctoral researcher	
ROLES	Research fellow, software developer	
ACTIVITIES	Research on machine learning algorithms and models, data analysis and mining, software developing and evaluation	
INSTITUTION	Department of Electrical and Electronic Engineering, University of Cagliari	Cagliari, Italy
PROJECT	Validity and Reliability of Variable Importance Measures in Biomarker Discovery	
PERIOD	June 2017 — May 2018	
POSITION	Post-doctoral researcher	
ROLES	Research fellow, software developer	
ACTIVITIES	Research on machine learning algorithms and models, Study design, exchange of methods, software developer and system evaluation	
INSTITUTIONS	Department of Electrical and Electronic Engineering, University of Cagliari	Cagliari, Italy
	Straubing Wissenschaftszentrum	Straubing, Germany
	Philipps-Universität	Marburg, Germany
PROJECT	S3ML - Experimenting novel metrics and algorithms for bionformatics	
PERIOD	2016 - 2017	
POSITION	Post-doctoral researcher	
ROLES	Research fellow, software developer	
ACTIVITIES	Research on machine learning and information retrieval, data analysis and mining, software developing	
INSTITUTION	Department of Electrical and Electronic Engineering, University of Cagliari	Cagliari, Italy

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PROJECT Study and experimentation of novel algorithms for automated taxonomy generation, optimization, and evaluation
PERIOD September 2015 — August 2016
POSITION Post-doctoral researcher
ROLES Research fellow, software developer
ACTIVITIES Research on machine learning and information retrieval; focus on taxonomy building and online advertising, data analysis and mining, software developing
INSTITUTION Department of Electrical and Electronic Engineering, University of Cagliari
 Cagliari, Italy

PROJECT Study, development and test of information theory techniques for taxonomies evaluation
PERIOD March 2012 - March 2015
POSITION Post-doctoral researcher
ROLES Research fellow, software developer
ACTIVITIES Research on machine learning algorithms and models, data analysis and mining, software developing and evaluation
INSTITUTION Department of Electrical and Electronic Engineering, University of Cagliari
 Cagliari, Italy

PROJECT GeoTargeted Advertising
PERIOD September 2011 — February 2012
POSITION Intern
ROLES Research fellow, software developer
ACTIVITIES Research on machine learning algorithms and models, data analysis and mining, software developing and evaluation
INSTITUTION Yahoo! Research Labs
 Barcelona, Spain

PROJECT Study, Development, and Experimentation of Novel Contextual Advertising Techniques in the Area of MultiModal Systems
PERIOD January — May 2012
ROLE Technical coordinator, research fellow
ACTIVITIES Research on advertising algorithms and models, software developing and evaluation
INSTITUTIONS Department of Electrical and Electronic Engineering, University of Cagliari
 Cagliari, Italy
 RAI Research Center
 Turin, Italy

PROJECT 2DGels: Machine learning techniques to decision support in 2-dimensional gel images
PERIOD September 2008 — February 2009
POSITION Junior developer
ROLES Software developer
ACTIVITIES Data analysis and software developing
INSTITUTION Department of Electrical and Electronic Engineering, University of Cagliari
 Cagliari, Italy

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VISITING ACTIVITIES

PERIOD	April 2018	
ROLE	Research fellow	
INSTITUTION	Philipps-Universität	Marburg, Germany
PERIOD	February 2018	
ROLE	Research fellow	
INSTITUTION	Philipps-Universität	Marburg, Germany
PERIOD	December 2017	
ROLE	Research fellow	
INSTITUTION	Philipps-Universität	Marburg, Germany
PERIOD	February 2017	
ROLE	Research fellow	
INSTITUTION	Philipps-Universität	Marburg, Germany
PERIOD	June — July 2016	
ROLE	Research fellow	
INSTITUTION	Straubing Wissenschaftszentrum	Straubing, Germany
PERIOD	September 2011 — February 2012	
ROLE	Intern	
INSTITUTION	Yahoo! Research Labs	Barcelona, Spain

EDUCATION

DATE	March 2012	
DEGREE	Ph.D. in Electronic and Computer Engineering	
THESIS TOPIC	Studying, Developing, and Evaluating Contextual Advertising Systems	
INSTITUTION	Department of Electrical and Electronic Engineering, University of Cagliari	Cagliari, Italy
DATE	July 2007	
DEGREE	Master of Science in Electronic Engineering	
THESIS TOPIC	Development and Application of the “Solution Space Method” for the Design of a 24 GHz Oscillator in GaAs 0.2 μ Technology	
INSTITUTION	Department of Electrical and Electronic Engineering, University of Cagliari	Cagliari, Italy

PUBLICATIONS

INTERNATIONAL JOURNALS

TITLE	Phi-delta-diagrams: software implementation of a visual tool for assessing classifier and feature performance
AUTHORS	G Armano, A Giuliani, U Neumann, N Rothe, D Heider
JOURNAL	Machine Learning and Knowledge Extraction 1 (1), 2019, 121-137
TITLE	A two-tiered 2d visual tool for assessing classifier performance
AUTHORS	G Armano, A Giuliani
JOURNAL	Information Sciences 463, 2018, 323-343

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TITLE Improving contextual advertising by adopting collaborative filtering
AUTHORS E Vargiu, A Giuliani, G Armano
JOURNAL ACM Transactions on the Web (TWEB) 7 (3), 2013, 1-22

CONFERENCES / WORKSHOPS PROCEEDINGS

TITLE Measuring diversity and accuracy in ANN ensembles
AUTHORS MP Sesmero, JM Alonso-Weber, A Giuliani, G Armano, A Sanchis
CONFERENCE Conference of the Spanish Association for Artificial Intelligence, 2018, 108-117

TITLE Using $\varphi - \delta$ Diagrams on Web Data
AUTHORS G Armano, A Giuliani
CONFERENCE International Conference on Web Engineering, 2018, 148-158

TITLE Using $\varphi - \delta$ Diagrams for Discovering Variable Importance in Bioinformatics
AUTHORS G Armano, A Giuliani
CONFERENCE 14th Annual Meeting of the Bioinformatics Italian Society, 2017

TITLE Automated taxonomy building by adopting discriminant and characteristic capabilities
AUTHORS G Armano, A Giuliani, E Tamponi
CONFERENCE 7th Italian Information Retrieval Workshop, IIR 2016, CEUR Workshop Proceedings 1653

TITLE Stopwords Identification by Means of Characteristic and Discriminant Analysis
AUTHORS G Armano, F Fanni, A Giuliani
CONFERENCE ICAART 2015 - 7th International Conference on Agents and Artificial Intelligence 353-360. 10.5220/0005194303530360.

TITLE Analysis of term roles along taxonomy nodes by adopting discriminant and characteristic capabilities
AUTHORS G Armano, F Fanni, A Giuliani
CONFERENCE 6th Italian Information Retrieval Workshop, IIR 2015, CEUR Workshop Proceedings 1404

TITLE Measuring Discriminant and Characteristic Capability for Building and Assessing Classifiers
AUTHORS G Armano, F Fanni, A Giuliani
CONFERENCE 8th International Workshop on Information Filtering and Retrieval, 2014, CEUR Workshop Proceedings 1314. 48-58.

TITLE CAMMA: contextual advertising system for multimodal news aggregations
AUTHORS G Armano, A Giuliani, A Messina, M Montagnuolo
CONFERENCE 21st ACM international conference on Multimedia, 2013, 455-456

TITLE Matching Ads in a Collaborative Advertising System
AUTHORS G Armano, A Giuliani
CONFERENCE International Conference on Electronic Commerce and Web Technologies, 2013, 150-161

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TITLE	Are Related Links Effective for Contextual Advertising?-A Preliminary Study
AUTHORS	G Armano, A Giuliani, E Vargiu
CONFERENCE	International Conference on Knowledge Discovery and Information Retrieval, 2012, 221-226
TITLE	Applying Contextual Advertising to MultiModal Information Content
AUTHORS	G Armano, A Giuliani, A Messina, M Montagnuolo, E Vargiu
CONFERENCE	EC-Web 2012: 13th International Conference on Electronic Commerce and Web Technologies, LNBIP 123, 2012, 195-202
TITLE	Using Snippets in Text Summarization: a Comparative Study and an Application
AUTHORS	G Armano, A Giuliani, E Vargiu
CONFERENCE	IIR 2012: 3rd Italian Information Retrieval Workshop, IIR 2012, CEUR Workshop Proceedings
TITLE	Semantic Enrichment of Contextual Advertising by using Concepts
AUTHORS	G Armano, A Giuliani, E Vargiu
CONFERENCE	KDIR 2011: International Conference on Knowledge Discovery and Information Retrieval, KDIR 2011, 232-237
TITLE	Studying the impact of text summarization on contextual advertising
AUTHORS	G Armano, A Giuliani, E Vargiu
CONFERENCE	22nd International Workshop on Database and Expert Systems Applications, 2011, 172-176
TITLE	Experimenting Text Summarization on Multimodal Aggregation
AUTHORS	G Armano, A Giuliani, E Vargiu
CONFERENCE	DART 2011: 4th International Workshop, New Challenges on Information Retrieval and Filtering, CEUR Proceedings 771
TITLE	Experimenting Text Summarization Techniques for Contextual Advertising
AUTHORS	G Armano, A Giuliani, E Vargiu
CONFERENCE	IIR 2011: Second Italian Workshop on Information Retrieval, CEUR Workshop Proceedings 704
TITLE	A RecommenderSystem Based on a Generic Contextual Advertising Approach
AUTHORS	G Armano, A Giuliani, E Vargiu
CONFERENCE	The IEEE symposium on Computers and Communications, 2010, 859-861
TITLE	A novel recommender system inspired by contextual advertising approach
AUTHORS	G Armano, A Giuliani, E Vargiu
CONFERENCE	ISA 2010: IADIS International Conference - Intelligent Systems and Agents, 2010, 67-74

BOOK CHAPTERS

TITLE	Novel Text Summarization Techniques for Contextual Advertising
AUTHORS	G Armano, A Giuliani
BOOK	Innovative Document Summarization Techniques: Revolutionizing Knowledge Understanding, IGI Global, 2014, 185-204, Alessandro Fiori (ed.)

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TITLE	Content-based keywords extraction and automatic advertisement associations to multimodal news aggregations
AUTHORS	G Armano, A Giuliani, A Messina, M Montagnuolo, E Vargiu
BOOK	New Challenges in Distributed Information Filtering and Retrieval, Springer, 2013, 33-52, C Lai, G Semeraro, E Vargiu (eds.)

TITLE	Intelligent Techniques in Recommender Systems and Contextual Advertising: Novel Approaches and Case Studies
AUTHORS	G Armano, A Giuliani, E Vargiu
BOOK	Intelligent Techniques in Recommendation Systems: Contextual Advancements and New Methods, IGI Global, 2012, 105-128, S Dehuri, MR Patra, BB Misra, AK Jagadev (eds.)

EDITED BOOKS

TITLE	Emerging Ideas on Information Filtering and Retrieval: DART 2013: Revised and Invited Papers
EDITORS	C Lai, A Giuliani, G Semeraro (eds.), Springer series of Studies in Computational Intelligence, 2018, ISBN 978-3-319-68392-8

TITLE	Information Filtering and Retrieval. DART 2014: Revised and Invited Papers
EDITORS	C Lai, A Giuliani, G Semeraro (eds.), Springer series of Studies in Computational Intelligence, 2017, ISBN 978-3-319-46135-9

TITLE	Distributed Systems and Applications of Information Filtering and Retrieval. DART 2012: Revised and Invited Papers
EDITORS	C Lai, A Giuliani, G Semeraro (eds.), Springer series of Studies in Computational Intelligence, 2014, ISBN 978-3-642-40621-8

TALKS

CONFERENCES AND WORKSHOPS

TITLE	Introduction to Numpy and Matplotlib (Tutorial)
EVENT	Pycon Sardegna 2019
DATE & VENUE	February 25th, 2020 Cagliari, Italy

TITLE	Discovering relevant patterns inside multilayer Perceptrons
EVENT	MLDM: 8th Italian Workshop on Machine Learning and Data Mining
DATE & VENUE	November 19th, 2019 Reggio Calabria, Italy

TITLE	Scientific Computation with Python (Tutorial)
EVENT	Pycon Sardegna 2018
DATE & VENUE	September 21st, 2018 Cagliari, Italy

TITLE	Using $\varphi - \delta$ Diagrams on Web Data
EVENT	KDWEB 2018: 4th Int. Workshop on Knowledge Discovery on the Web
DATE & VENUE	June 5th, 2018 Caceres, Spain

TITLE	Using $\varphi - \delta$ diagrams for discovering variable importance in bioinformatics
EVENT	BITS 2017: 14th Annual Meeting of the Bioinformatics Italian Society
DATE & VENUE	July 5th, 2017 Cagliari, Italy

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TITLE	Automated taxonomy building by adopting discriminant and characteristic capabilities	
EVENT	IIR 2016: 7th Italian Information Retrieval Workshop	
DATE & VENUE	May 31st, 2016	Venice, Italy
TITLE	Analysis of term roles along taxonomy nodes by adopting discriminant and characteristic capabilities	
EVENT	IIR 2015: 6th Italian Information Retrieval Workshop	
DATE & VENUE	May 26th, 2015	Cagliari, Italy
TITLE	CAMMA: Contextual Advertising System for Multimodal News Aggregations	
EVENT	ACMMM 2013: ACM Multimedia Conference	
DATE & VENUE	October 22nd, 2013	Barcelona, Spain
TITLE	Matching Ads in a Collaborative Advertising System	
EVENT	EC-Web 2013: 14th International Conference on Electronic Commerce and Web Technologies	
DATE & VENUE	August 28th, 2013	Prague, Czech Republic
TITLE	Are Related Links Effective for Contextual Advertising? A Preliminary Study	
EVENT	KDIR 2012: 4th Int. Conf. on Knowledge Discovery and Information Retrieval	
DATE & VENUE	October 7nd, 2012	Barcelona, Spain
TITLE	Applying Contextual Advertising to Multimodal Information content	
EVENT	EC-Web 2012: 13th International Conference on Electronic Commerce and Web Technologies	
DATE & VENUE	September 4th, 2012	Vienna, Austria
TITLE	Using Snippets in Text Summarization: a Comparative Study and an Application	
EVENT	IIR 2012: 3rd Italian Information Retrieval Workshop	
DATE & VENUE	January 25th, 2012	Bari, Italy
TITLE	Semantic Enrichment of Contextual Advertising by Using Concepts	
EVENT	KDIR 2011: 3rd Int. Conf. on Knowledge Discovery and Information Retrieval	
DATE & VENUE	October 29th, 2011	Paris, France
TITLE	Studying the Impact of Text Summarization on Contextual Advertising	
EVENT	TIR 2011: 8th International Workshop on Text-based Information Retrieval	
DATE & VENUE	August 31st,	Toulouse, France
TITLE	Experimenting Text Summarization Techniques for Contextual Advertising	
EVENT	IIR 2011: 2nd Italian Information Retrieval Workshop	
DATE & VENUE	January 27th, 2011	Milan, Italy
TITLE	A Novel Recommender System Inspired by Contextual Advertising	
EVENT	IADIS International Conference - Intelligent Systems and Agents 2010	
DATE & VENUE	July 29th, 2010	Freiburg, Germany

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TITLE	Contextual Advertising: State of the Art and Critical Issues	
EVENT	AIxIA 2010, Doctoral Consortium	
DATE & VENUE	December 2nd, 2010	Brescia, Italy

INVITED TALKS AT UNIVERSITIES AND RESEARCH CENTERS

TITLE	Implementing $\varphi - \delta$ widget in Orange	
DATE	December 13th, 2017	
VENUE	Philipps-Universität	Marburg, Germany

TITLE	Combining Content-Based and Collaborative Filtering Strategies for Contextual Advertising	
DATE	February 14th, 2017	
VENUE	Philipps-Universität	Marburg, Germany

TITLE	Using $\varphi - \delta$ to perform feature ranking applications in text categorization and bioinformatics scenarios	
DATE	July 5th, 2016	
VENUE	Straubing Wissenschaftszentrum	Straubing, Germany

TITLE	Studying, Developing, and Experimenting Contextual Advertising Systems	
DATE	April 8th, 2011	
VENUE	hoplo s.r.l.	Cagliari, Italy

INVITED TALKS IN LOCAL EVENTS

TITLE	Machine Learning: Science or Sci-Fi?	
EVENT	Linux Day 2019	
DATE & VENUE	October 26th, 2019	Macomer, Italy

TITLE	Inside Machine Learning	
EVENT	Linux Day 2019	
DATE & VENUE	October 26th, 2019	Macomer, Italy

TITLE	From "Hello World!" to Industry	
EVENT	IEEE Student Branch Events 2019	
DATE & VENUE	February 13th, 2019	Cagliari, Italy

TITLE	Academic Research: personal experience	
EVENT	YourFuture.exe	
DATE & VENUE	April 17th, 2017	Assemini, Italy

TITLE	Python Introduction	
EVENT	Linux Day 2016	
DATE & VENUE	October 22nd, 2016	Macomer, Italy

REVIEWING ACTIVITY

INTERNATIONAL JOURNALS

AADA: Advances in Adaptive Data Analysis

Algorithms

Entropy

IJERPH: International Journal of Environmental Research and Public Health

JMLC: International Journal of Machine Learning and Cybernetics

Symmetry

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PROGRAM COMMITTEE MEMBERSHIP

BigDaCI: Int. Conf. on Big Data Analytics, Data Mining and Computational Intelligence
BLINKS: Workshop on Big, Linked and Social Data for Personalized and Intelligent Systems
CLIC-it: Italian Computational Linguistics Conference
COGNITIVE: International Conference on Advanced Cognitive Technologies and Applications
DART: Int. Workshop on New Challenges in Distributed Information Filtering and Retrieval
DECAT: Workshop on Deep Content Analytics Techniques for Personalized and Intelligent Services
ECIR: European Conference on Information Retrieval
FINREC: Int. Workshop on Personalization and Recommender Systems in Financial Services
ICORES: International Conference on Operations Research and Enterprise Systems
IMM : International Conference on Advances in Information Mining and Management
ISA: IADIS International Conference - Intelligent Systems and Agents
SCDM2020: International Conference on Soft Computing and Data Mining

ORGANIZING ACTIVITIES

Chair of **KDWEB:** Int. Workshop on Knowledge Discovery on the Web (2015 - current)
Chair of **DART:** Int. Workshop on Information Filtering and Retrieval: Novel Distributed Systems and Applications (2012 - 2015)
Chair of **Pycon Sardegna:** Local Workshop on Python Language (2018 - current)

TEACHING ACTIVITY

ACADEMIC TUTOR

COURSES	Object Oriented Programming	(2009 - present)
	Object Oriented Programming and Scripting in Python	(2011 - present)
	Fundamentals of Computer Science II	(2008 - present)
	Fundamentals of Computer Science I	(2009 - 2014)
DEGREE	Electrical and Electronic Engineering	
INSTITUTION	University of Cagliari	
COURSES	Elements of Bioinformatics	(20015 - present)
DEGREE	Biomedicalc Engineering	
INSTITUTION	University of Cagliari	

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