

Mattia Atzeni

Professional Summary

I received a Master of Science in Computer Science *summa cum laude* from the University of Cagliari in 2018, with a thesis entitled *Unsupervised Semantic Parsing for Question Answering over Source Code*. I have published in some main conferences and journals such as ISWC, ESWC, IRC, JMLC and my main research interests include Natural Language Processing, Machine Learning and Semantic Web.

Experience

Semantic Web Lab - University of Cagliari

Research Assistant

CAGLIARI, ITALY

Sep 2017 – present

The research work aims at designing an unsupervised semantic approach to process complex natural language questions that cannot be answered by factual Question Answering nor advanced data querying, requiring instead the generation and execution of ad-hoc Java source code. Two approaches have been developed: a flexible coarse-grained technique which only supports sentences involving the execution of a single method, and a fine-grained approach that features the possibility of handling more complex questions, possibly requiring the execution of multiple methods. Both systems are capable of querying source code to retrieve a set of methods and code snippets that are ranked to select the candidate that most closely matches the natural language specification provided by the user.

BUP solutions

Software and research engineer

ROME, ITALY

Apr 2017 – Oct 2017

The job consists of developing specific APIs to provide efficient and reliable services of fine-grained semantic sentiment analysis in both english and italian languages. Existing approaches are mainly focused on the identification of parts of the text where opinions and sentiments can be explicitly expressed such as polarity terms, expressions, affect words. Semantic Sentiment Analysis techniques aim to go beyond a mere word-level analysis of text, in order to provide novel methods to efficiently transform unstructured textual information to structured machine-processable data.

Semantic Web Lab - University of Cagliari

Intern

CAGLIARI, ITALY

Mar 2016 – Sep 2017

The internship aims at leveraging advances in the Semantic Web area, including data modeling (RDF), data management and querying (JENA and SPARQL), to develop an ontology and a framework supporting expressive queries over source code. The main results of the internship are the design of an ontology to represent object oriented programming languages and the development of a parser to extract structured information from source code, thereby allowing to publish it on the Web in the form of Linked Open Data, as well as enabling the execution of highly expressive queries over source code by means of a powerful language like SPARQL.

University of Cagliari

Intern

CAGLIARI, ITALY

Jun 2014 – Oct 2014

The main purpose of the internship was the development of a Oculus Rift enabled game with Unity 3D. The game has been developed in C# and Javascript, using the Oculus Rift SDK. 3D models have been created using tools like 3ds Max and Blender.

Skills

- Semantic Web: SPARQL, RDF, OWL, Ontology Design Patterns;
- Natural Language Processing;
- Data Mining and Machine Learning;
- Big Data: Apache Spark, HDFS;
- Functional Programming: Scala, OCaml;
- Object-Oriented Programming: Java, C#, C++;
- Web Development: PHP, Javascript, HTML, CSS;
- Programming: Python, R, C, Bash;
- Relational DBMS, SQL;
- NoSQL, MongoDB;
- MATLAB;
- Android Development;
- Linux.

Education

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|---|--|
| Università degli Studi di Cagliari
Master of Science in Computer Science
110/110 e Lode | CAGLIARI, ITALY
Oct 2016 – April 2018 |
| Università degli Studi di Cagliari
Bachelor of Science in Computer Science
110/110 e Lode | CAGLIARI, ITALY
Oct 2013 – Jul 2016 |
| Liceo Scientifico Statale "Pitagora"
High school leaving qualification in scientific studies
100/100 e Lode | SELARGIUS, ITALY
Sept 2008 – Jul 2013 |

Languages

Italian (*mother tongue*), English (*professional proficiency*).

Certifications

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|---|-----------|
| TOEFL - Test of English as a Foreign Language
ETS - Educational Testing Service | Sept 2016 |
| CCNA Routing and Switching: Introduction to Networks
Cisco Networking Academy
100% with merit | Oct 2016 |
| CCNA Routing and Switching: Routing and Switching Essentials
Cisco Networking Academy
100% with merit | Nov 2016 |
| EFSET English Certificate
EF Education First
Advanced (CEFR C1) | Nov 2016 |
| Machine Learning
Coursera - Machine Learning
100% with Distinction | Apr 2015 |
| Cryptography I
Coursera - Cryptography I
100% with Distinction | Mar 2015 |

Game Theory

Coursera - Game Theory
100% with Distinction

Dec 2014

Awards

ISWC 2017 Student Travel Award

International Semantic Web Conference 2017

October 2017

EDBT Summer School 2017 Full Grant

Extending Database Technology - Summer School 2017

September 2017

1st place at ESWC 2017 Challenge on Semantic Sentiment Analysis

Extended Semantic Web Conference 2017

May 2017

National Register of Excellent Graduate High School Students

Italian Ministry of Education, Universities and Research

July 2012

Publications

FineNews: fine-grained semantic sentiment analysis on financial microblogs and news

Amna Dridi, Mattia Atzeni, Diego Reforgiato Recupero

International Journal of Machine Learning and Cybernetics, Springer Berlin Heidelberg, 2018,

<https://doi.org/10.1007/s13042-018-0805-x>

Deep Learning and Sentiment Analysis for Human Robot Interaction

Mattia Atzeni, Diego Reforgiato Recupero

ESWC 2018 Posters and Demonstrations Track, co-located with 15th Extended Semantic Web Conference (ESWC 2018), Heraklion, Crete, Greece, 2018

Towards Semantic Approaches for General-Purpose End-User Development

Mattia Atzeni, Maurizio Atzori

2018 Second IEEE International Conference on Robotic Computing (IRC), Laguna Hills, CA, USA, 2018, pp. 369-376, doi: 10.1109/IRC.2018.00077

CodeOntology: RDF-ization of Source Code

Mattia Atzeni, Maurizio Atzori

The Semantic Web - ISWC 2017: Proceedings of the International Semantic Web Conference, Vienna, Austria, October 21-25, Springer International Publishing (2017)

CodeOntology: Querying Source Code in a Semantic Framework

Mattia Atzeni, Maurizio Atzori

Proceedings of the ISWC 2017 Posters and Demonstrations Track, co-located with 16th International Semantic Web Conference (ISWC 2017)

Bearish-Bullish Sentiment Analysis on Financial Microblogs

Amna Dridi, Mattia Atzeni, Diego Reforgiato Recupero

Proceedings of the 3rd International Workshop on Emotions, Modality, Sentiment Analysis and the Semantic Web, co-located with 14th ESWC 2017

Fine-Grained Sentiment Analysis on Financial Microblogs and News Headlines

Mattia Atzeni, Amna Dridi, Diego Reforgiato Recupero

Challenge on Semantic Sentiment Analysis 2017, co-located with 14th ESWC 2017
