

Fiorela Ciroku

Date of birth: 06/05/1994

WORK EXPERIENCE

[01/2021 – Current]

Researcher

University of Bologna

City: Bologna

Country: Italy

Since January 2021, I have been working as a researcher in the "Polifonia" project, part of the European Union's Horizon 2020 research and innovation programme under grant agreement GA101004746. My responsibilities in this project are:

- Representative of University of Bologna in the Technical Board of Polifonia.
- Task leader of a work package related to ontology engineering and testing.
- Specialist in knowledge and ontology engineering.

[12/2020 – 12/2022]

Tutor for the "Software engineering" course

University of Bologna

City: Bologna

Country: Italy

- Create the project of the course including functionality and technical requirements.
- Assist students during the development of the project.
- Examine the projects of the course and evaluate the students.

[2020 – 2020]

Tutor for the "Algorithms and data structure" course

University of Bologna

City: Bologna

Country: Italy

- Create and explain exercises for the course.
- Communicate actively with students regarding the exercises.
- Assist with homework and examinations.

[01/06/2018 – 15/08/2019]

Office Assistant

1&1 United Internet

City: Montabaur

Country: Germany

- Creating tests in Java/Python for specific use cases.
- Testing different benchmark/frameworks for specific use cases.
- Static and dynamic testing of company campaigns.
- Creating automation tools for presentation and faster testing.

[01/04/2017 – 31/07/2019]

Student Assistant

University of Koblenz-Landau

City: Koblenz

Country: Germany

- Teaching tutorials of Semantic Web master course in the department of Web Science.
- Preparing weekly assignments in accordance to lectures.
- Presenting the master solution of assignments and preparing live exercises for the classroom.
- Correction of weekly assignments and providing feedback to the students.

[18/01/2016 – 31/03/2016]

Client Data Analyst

Coca Cola Bottling Shqiperia

City: Tirane

Country: Albania

- Preparation of official communications and offers.
- Responsible for updating the clients' data.
- Preparation of reports of expired or damaged products.
- In charge of the process for the replacement of damaged products.
- Preparation of statistic analysis for the expired products and investigation of the reasons why the products expired.

EDUCATION AND TRAINING

[01/11/2019 – 05/07/2023]

PhD in Computer Science

Alma Mater Studiorum - Università di Bologna

City: Bologna

Country: Italy

Field(s) of study: Computer Science

Thesis: Supporting requirement elicitation and ontology testing in knowledge graph engineering

In the PhD programme, I worked on defining methods and implementing tools to support the requirement elicitation and ontology testing in a knowledge graph engineering process. Both phases of the process are extremely significant since the requirements define the scope and domain of the project and the testing assures the quality of the produced ontology and knowledge graph. The work is motivated based on the gap in the state-of-the-art regarding the tool support for these phases, which make the whole process redundant, time- and cost-consuming. The results of the evaluations of both tools (based on the methods) are very promising and already show a great prospect for further development.

[11/04/2016 – 24/10/2019]

Master Degree in Web Science

University of Koblenz-Landau

City: Koblenz

Country: Germany

Final grade: 2,0

Thesis: Implementation of concept contraction in the description logic EL.

Belief revision is the subarea of knowledge representation which studies the dynamics of epistemic states of an agent. In the classical AGM approach, contraction, as part of the belief revision, deals with the removal of beliefs in knowledge bases. This master's thesis presents the study and the implementation of concept contraction in the Description Logic EL. Concept contraction deals with the following situation. Given two concept C and D, assuming that C is subsumed by D, how can concept C be changed so that it is not subsumed by D anymore, but is as similar as possible to C? This approach of belief change is different from other related work because it deals with contraction in the level of concepts and not T-Boxes and A-Boxes in general. The main contribution of the thesis is the implementation of the concept contraction. The implementation provides insight into the complexity of contraction in EL, which is tractable since the main inference task in EL is also tractable. The implementation consists of the design of five algorithms that are necessary for concept contraction. The algorithms are described, illustrated with examples, and analyzed in terms of time complexity. Furthermore, we propose a new approach for a selection function, adapted for the concept contraction. The selection function uses metadata about the concepts in order to select the \textit{best} from an input set. The metadata is modeled in a framework that we have designed, based on standard metadata frameworks. As an important part of the concept contraction, the selection function is responsible for selecting the best concepts that are as similar as

possible to concept C. Lastly, we have successfully implemented the concept contraction in Python, and the results are promising.

[01/07/2018 – 07/07/2018]

Linked Data Validity

International Semantic Web Research Summer School

City: Bertinoro

Country: Italy

Attended the following seminars:

- KR Querying Reasoning For Large Knowledge Graphs
- Ontology Design Patterns & Linguistic Frames
- Machine Learning, embeddings for Large Knowledge Graphs
- Natural Language Processing
- Crowdsourcing
- Distributed Decentralized Semantic Web, Blockchain

[01/07/2015 – 01/10/2015]

Certificate of Specialist in Communication Systems

Ministry of Defense

City: Tirane

Country: Albania

- Maintenance of hardware devices and PC applications
- Conducting different Cat5 cabling and installation of patch panels
- Configuration of network equipment: switches, routers (Cisco and Alcatel)
- Configuration of Alcatel telephone exchange
- Establishment and management of the virtualization platforms (Xen Server)
- Managing Windows Server services such as Active Directory, SharePoint, Microsoft Exchange Email Server
- Establishment of VOIP phone systems (Asterisk) and their management
- Programming in HTML5, CSS3, Bootstrap, jQuery, PHP, MYSQL.
- Construction and development of BIRT reporting system.

[12/10/2012 – 30/09/2015]

Bachelor Degree in Business Informatics

University of Tirana - Faculty of Economy

City: Tirane

Country: Albania

Bachelor Thesis title: Visualization of algorithms and its benefits in the educational system

Supervisor: Prof. Dr Dhimitri Tole

Grade: 10.0

*Grading system: Highest grade=10, Lowest grade=5

LANGUAGE SKILLS

Mother tongue(s): Albanian

Other language(s):

English

LISTENING C2 READING C2 WRITING C2

SPOKEN PRODUCTION C2 SPOKEN INTERACTION C2

Italian

LISTENING C1 READING C1 WRITING B2

SPOKEN PRODUCTION B2 SPOKEN INTERACTION B2

German

LISTENING A1 READING A1 WRITING A1

SPOKEN PRODUCTION A1 SPOKEN INTERACTION A1

Levels: A1 and A2: Basic user; B1 and B2: Independent user; C1 and C2: Proficient user

PUBLICATIONS

[2022] [**Providing tool support for unit testing in eXtreme Design**](#)

Ciroku, Fiorela, and Valentina Presutti. "Providing tool support for unit testing in eXtreme Design." In *Proceedings of the 1st Workshop on Modular Knowledge*. 2022.

[2022] [**D2. 4: Methods for interlinking knowledge graphs \(V1. 0\)**](#)

Reference: Peñuela, Albert Meroño, et al. "D2. 4: Methods for interlinking knowledge graphs (V1. 0)." (2022).

[2021] [**Semantic integration of mir datasets with the polifonia ontology network**](#)

Carriero, Valentina Anita, Fiorela Giroku, Jacopo de Berardinis, Delfina Sol Martinez Pandiani, Albert Meroño-Peñuela, Andrea Poltronieri, and Valentina Presutti. "Semantic integration of mir datasets with the polifonia ontology network." In *Proc. of the International Society for Music Information Retrieval Conference, ISMIR*. 2021.

[2021] [**D2. 1: Ontology-based knowledge graphs for music objects \(V1. 0\)**](#)

KCL, UNIBO, IReMus NISV, Albert Meroño-Peñuela KCL, Jacopo de Berardinis, Anita Carriero, Mari Wigham, Andrea Poltronieri, Fiorela Giroku, Christophe Guillotel-Nothmann, and Philippe Rigaux. "D2. 1: Ontology-based knowledge graphs for music objects (V1. 0)." (2021).

[2021] [**Polifonia: a digital harmoniser for musical heritage knowledge, H2020**](#)

Bottini, Thomas, Valentina Anita Carriero, Jason Carvalho OU, Philippe Cathé, Fiorela Giroku, Enrico Daga OU, Marilena Daquino et al. "Polifonia: a digital harmoniser for musical heritage knowledge, H2020." (2021).

[2021] [**D1. 3: Pilots development-collaborative methodology and tools \(V1. 0\)**](#)

Daga, Enrico, Marilena Daquino, Fiorela Giroku, Elena Musumeci MiC, Marco Guerrieri, Andrea Scharnhorst, Femmy Admiraal, and Raphaël Fournier-S'niehotta. "D1. 3: Pilots development-collaborative methodology and tools (V1. 0)." (2021).

[2019]

[**A decentralized approach to validating personal data using a combination of blockchains and linked data**](#)

Bucur, Cristina Iulia, Fiorela Giroku, Tatiana Makhalova, Ettore Rizza, Thiviyam Thanapalasingam, Dalia Varanka, Michael Wolowyk, and John Domingue. "A decentralized approach to validating personal data using a combination of blockchains and linked data." (2019): 88-97.

HONOURS AND AWARDS

Honours and awards

I received a scholarship from the University of Koblenz-Landau, WEST institute, to participate in International Semantic Web Summer School in Bertinoro, Italy. This scholarship was provided taking into the consideration the work that I have done in the summer semester of 2017 and 2018 as a student assistant for the Semantic Web course. Further more, my interest in the field and the master thesis topic have played a big role in receiving this scholarship. In the International Semantic Web Summer school 2018, my team and I received first price for the 'Best research paper' and first price for 'Best presentation', with the topic of 'A Decentralized Approach to Validating Personal Data Using a Combination of Blockchains and Linked Data'.

COMMUNICATION AND INTERPERSONAL SKILLS

Communication

I have good communication skills and I adapt easily in multicultural environments. I have been part of national and international programs with participants from around the world and we have been able to build a good professional relationships. These experiences have shaped me into being more attentive in the work environment and to the people I work with.

EVENTS

[04/2022 – 07/2022] International Semantic Web School

International Semantic Web School is a full immersion, super intensive one-week experience including lectures and keynotes. ISWS 2022 was held in Bertinoro from the 3rd - 9th of July 2022. Months Prior to the event, I was involved with the planning of activities related to research and leasure. My responsibilities during the summer school were to assure the safe arrival of the participants in Bertinoro. Once arrived, I was in charge of several events that occurred during the week together with my colleagues. Most importantly, the team assisted in all possible problems that the students faced and tried to make the experience as smooth and efficient as possible.

[07/2021 – 09/2021] Smart City Robotics Challenge

The second edition of Smart City Robotics Challenge was hosted by the city of Bologna from the 6th – 10th September 2021. I was responsible of presenting and describing each of the episodes to the visitors. One of the biggest objectives was to engage the general public from children to old age people with the episodes and demonstrate the several everyday life scenarios where robotics can support human daily activities.