Andrea Poltronieri

Date of Birth: 21/03/1993
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EDUCATION

10/2018 - 03/2021

Master's degree in Digital Humanities and Digital Knowledge – international degree

Alma Mater Studiorum – University of Bologna, Bologna, Italy

Grade: 110/110 with honour

Dissertation title: *Using Semantic Technologies to support Music Representation Interoperability and Musicological Analysis*

Dissertation description: This dissertation aims to develop an ontology that can serve musicological research. This ontology proposes to make different types of musical representations interoperable and to describe an extended set of musicological features, previously extracted with algorithms implemented explicitly for this research.

Supervisor: Aldo Gangemi (https://www.unibo.it/sitoweb/aldo.gangemi/)

Co-supervisor: Albert Meroño Peñuela (https://www.albertmeronyo.org/)

During this degree I passed 13 examinations with an average mark of 29.88/30, mainly in the following areas:

- *Computer Science*: Computational Thinking and Programming, Data Modelling and Multimedia Databases, Information Modelling and Web Technologies, Usability and User Experience, Intangible Artifacts Cultural Heritage and Multimedia, Machine Learning
- *Knowledge Management*: Knowledge Representation and Extraction, Knowledge Organization and Digital Methods in the Cultural Heritage Domain

09/2017 – 02/2018

Exchange Student – Erasmus+ Program

Universidade NOVA de Lisboa – Faculdade de Ciências Sociais e Humanas, Lisbon, Portugal

During this exchange period I passed 5 examinations mainly in the following areas:

- *Computational musicology*: Music and Computing
- *Musicology*: Philosophy of Music: Foundations, Ethnomusicology: Introduction, Theory and Methods of Ethnomusicology, Theory and Methods in Musicology

09/2015 – 11/2018

Bachelor's degree in DAMS – Drama, Art and Music Studies

Alma Mater Studiorum – University of Bologna, Bologna, Italy

Grade: 105/110

Dissertation title: *Il "caso Gobatti", un esempio di "fanatismo" nei Teatri d'opera italiani di fine Ottocento*

Supervisor: Anna Scalfaro (https://www.unibo.it/sitoweb/anna.scalfaro/en)

During this degree I passed 14 examinations mainly in the following areas:

- *Historical Musicology*: History of Music II: Seventeenth-Eighteenth Centuries, History of Music III: Nineteenth Century, History of Music IV: Twentieth Century, History of Light Music
- *Harmony and Music Theory*: Elements of Harmony and Counterpoint

09/2012 – 02/2015

CCR Diploma – Rock Guitar Course

Rock Guitar Academy, Milan, Italy

Acquired skills:

- Instrument practice
- Melodic and harmonic training
- Music scores sight-reading

09/2007 – 07/2012

High school diploma in scientific and informatic studies

Galileo Galilei High School, Ostiglia (MN), Italy

WORK EXPERIENCE

01/2020 - Present

Conversation Designer

Heres s.r.l.

Bologna, Italy

Company working on chatbot development at enterprise-level. Within the company, I am responsible for the management and implementation of conversational flows and NLP algorithms.

Responsibilities:

- Design and development of conversational flows
- Natural Language Processing algorithms development
- Project management and customer relations
- Research and product development

05/2018 – 08/2018

Event Planner

Mantova Chamber Music Orchestra

Mantua, Italy

Within the foundation, I managed the organisation of an international classical music festival named *Trame Sonore*. The 2018 edition of the festival hosted 300 international artists who performed in over 200 concerts.

Responsibilities:

- Concerts planning and logistical organisation

09/2014 – 11/2019

Musician - Guitarist

DEGO Orchestra

Padua, Italy

PERSONAL SKILLS AND COMPETENCIES

Mother tongue: Italian

Other languages:

- **English**: C1 level (Common European Framework of Reference for Languages)

  7.0 IELTS Academic Overall Band Score (test date 18/07/2019)
- **Portuguese**: B1 level (Common European Framework of Reference for Languages)

SPECIFIC TECHNICAL SKILLS

- Programming languages: Python, JavaScript, C++, Julia
- Python libraries: NumPy, Pandas, NLTK
  - Python libraries for music research and DSP: music21, Librosa, VIS Framework, MSAV
  - Python libraries for machine learning: Keras, TensorFlow, Scikit-learn
- Notation software: Finale, MuseScore, Sibelius
- Digital Audio Workstation (DAW): Cubase, Ableton
- Semantic Web languages: RDF, SPARQL, OWL
- Knowledge Engineering: Protégé
- Web development: HTML, CSS, SCSS, Bootstrap

PROJECTS

HaMSE Ontology (2021)
https://andreamust.github.io/HaMSE_project/
https://github.com/andreamust/HaMSE_Ontology

Project developed for master's course final dissertation. It applies Semantic Technologies to musicological applications. The resulting ontology represents a wide range of musicological aspects (e.g., from the level of single note specificity to the representation of different types of melodic, harmonic, structural and emotional features) and allows interoperability between different representation systems.

Machine Learning Genre and Artist Classification (2020)
https://github.com/andreamust/ML_genre_classification

Project developed for the final exam of *Machine Learning*. The project aims at automatically classifying the music genre and the performing artist of a given song. Both recurrent (RNN), convolutional (CNN), and hybrid approaches (CRNN) deep learning algorithms have then been developed. The results of accuracy in music genre classification stand at 88%.

Tusmann Project (2020)
https://tusmann.github.io/tusmann/

Project developed for the final exam of the course in *Information Modelling and Web Technologies*. The project aims to use web design technologies to create a web application that can display web pages in different typographic styles from different historical periods. For this project's development, the standard web development technologies were used, in particular HTML, SCSS and JavaScript.

Pop Words - Political Rhetorics of Populism (2019)
https://popwords.github.io/

Project developed for the final examination in *Knowledge Representation and Extraction*. The aim of this project is the analysis of common pattern in political rhetoric. For the project, close and distant reading methods have been employed, such as rhetorical device analysis, topic modelling, sentiment analysis, and lexical space analysis. Pop Words then creates ASAP, an OWL ontology formalizing rhetorical strategies employed by Right-wing populists.

ApolLOD 11 (2019)
https://apollod11.github.io/

Project developed for the final examination in *Knowledge Organization and Digital Methods in the Cultural Heritage Domain*. ApoLOD11 project creates a Linked Open Data environment for key concepts, figures, and items surrounding the idea of the first lunar exploration, representing the relationships through an E/R Model. The end result is representative items linked in a LOD manner that follows industry standards.