Alessandro Suglia

Education

2018–2021 (expected)   **PhD in Robotics and Autonomous Systems**, *Centre for Doctoral Training in the Edinburgh Centre for Robotics*, Supervisors: Prof. Oliver Lemon, Dr. Ioannis Konstas.
Topic: Interactive Grounded Language Learning

2017–2018   **MSc by Research in Robotics and Autonomous Systems**, Centre for Doctoral Training at the Edinburgh Centre for Robotics, *Full marks with distinction*.
Thesis: "Dialogue Attention Buffer: A Neural Memory Module for Task-based Conversational Systems"

2014–2017   **Master Degree in Computer Science**, *Knowledge Engineering and Machine Intelligence*, University of Bari, Italy, *Full marks with distinction*.
Thesis: "Converse-Et-Impera: a Conversational Content-based Recommender System based on Hierarchical Deep Reinforcement Learning"

2011–2014   **Bachelor Degree in Computer Science**, University of Bari, Italy, *Full marks with distinction*.
Thesis: "Content-based Recommender Systems based on Linked Open Data"

Publications (see Google Scholar for the full list)

Alessandro Suglia et al. "CompGuessWhat?!: a Multi-task Evaluation Framework for Grounded Language Learning". In: *Proceedings of the 58th Annual Meeting of the Association for Computational Linguistics*. 2020.

Alessandro Suglia et al. "Imagining Grounded Conceptual Representations from Perceptual Information in Situated Guessing Games". In: *(To appear) Proceedings of the 28th International Conference on Computational Linguistics (COLING)*. 2020.

Alessandro Suglia et al. "A deep architecture for content-based recommendations exploiting recurrent neural networks". In: *Proceedings of the 25th Conference on User Modeling, Adaptation and Personalization*. 2017, pp. 202–211.

Experience

Work

June 2020 – Now   **NLP Software Engineer**, *AlanaAI Limited*.
Design and implementation of knowledge-based and data-driven components for the Alana Conversational AI. I am responsible for the Natural Language Understanding pipeline of the dialogue system as well as semantic-aware components based on ontologies and linked open data.

Oct. 2019 – Aug. 2020   **NLP Consultant**, *The AvantGarde Group Srl*.
Design and implementation of a hierarchical text-classification model based on BERT for financial documents written in Italian. The solution, evaluated on a real-world dataset, guaranteed a boost in terms of classification performance (measured as F1-measure) of 4.9% compared to feature-based machine learning models.

Apr. 2017 – Sept. 2017   **NLP Consultant**, *Plusimple Srl*.
Design and implementation of a context-aware search engine able to understand the user query intent and to reformulate the query according to intent and user-specific information collected during the platform usage time.

Teaching

Sept. 2019 – Dec. 2019 **Enhanced Lab Helper**, *Statistical Machine Learning (F20ML).*
Enhanced lab helper for the course Statistical Machine Learning (F20ML) at Heriot-Watt University. The role involved designing the course material and running the lab sessions. Each lab session was dedicated to specific Machine Learning algorithms that were developed in Python using scikit-learn.

Jan. 2020 – Apr. 2020 **Enhanced Lab Helper**, *Conversational Agents and Spoken Language Processing (F21CA).*
Enhanced Lab helper for the course Conversational Agents and Spoken Language Processing (F21CA) at Heriot-Watt University. The role involved supervising a group of students for their course project aimed at extending the Alana Conversational AI to create a personal assistant for a smart-home able to monitor and improve the energy consumption of the appliances.

Sept. 2019 **Lab Demonstrator**, *AthNLP 2019.*
Lab demonstrator for the Athens Natural Language Processing Summer School. I was responsible of supporting the main organisers in preparing the content of the lab sessions. In addition, the role involved helping the students in solving the exercises during the lab sessions of the summer school.

University projects

CompGuess What?! Implementation and design of the evaluation framework described in the paper "CompGuessWhat?!: a Multi-task Evaluation Framework for Grounded Language Learning".

Website: https://compguesswhat.github.io

Amazon Alexa Prize 2018 Design and implementation of several components for the open-domain conversational agent "Alana" ranked 3rd in the Alexa Prize Challenge 2018. I was responsible for the main architecture of the socialbot as well as the Natural Language Understanding pipeline and several retrieval-based bots.

Reference: https://developer.amazon.com/alexaprize/2018/proceedings

IMNAMAP Implementation in *TensorFlow* of the paper "Iterative Multi-document Neural Attention for Multiple Answer Prediction" which describes a *Deep Learning* model able to generate multiple answers to a given question extracting relevant evidences from multiple documents.

Code: https://github.com/nlp-deepqa/imnamap

Honours

2013–2014 **Best graduated student award**, *University of Bari, Italy.*

Personal skills and competences

Languages

Italian (Native)   English (Fluent)

Technical skills

Programming languages (preferred)	Python, Java	Programming languages (known)	C, C++, Go, Haskell, Lua
Machine Learning libraries	scikit-learn, TensorFlow, Torch, PyTorch, Weka	Semantic Web technologies	OWL, RDF, SPARQL
Database Management Systems	MySQL, MongoDB, PostgreSQL, DynamoDB		