

# GiulioZhou

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<http://giuliozhou.it>

Brilliant and highly motivated Artificial Intelligence student with solid maths and programming background. Research interests include Machine Translation and Natural Language Understanding. Currently focusing on sequence-to-sequence models, morphology and word embeddings in Natural Language Processing.

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## Education

2017 - PRESENT

### **MSc in Artificial Intelligence / University of Edinburgh**

- Expected 2018
- Thesis: "Morphological Zero-Shot Neural Machine Translation" (in progress)  
Supervisor: Dr Alexandra Birch
- Specialisation Area: Natural Language Processing

2014 - 2017

### **BA in Computer Science / Alma Mater Studiorum, University of Bologna**

- **Final Mark : 110/110 cum Laude**
- Thesis: "[Machine Learning as support for the evaluation of Agile Requirements](#)" (in Italian)  
Supervisor: Prof Paolo Ciancarini
- Featured Courses includes: Linear Algebra, Probability Calculus and Statistics, Mathematical Analysis, Algorithms and Data Structures, Databases, Programming Language Technologies, Optimisation, Theoretical Computer Science, Operating Systems, Software Engineering
- Obtained three Scholarship for academic distinction in 2014-2015

2009 - 2014

### **Diploma in Business and Programming / Commercial Institute "Federico Cesi", Italy**

- **Final Mark : 100/100 cum Laude**
  - Thesis : "The modern side of 'The art of war' " - Awarded as best thesis in *Umbria (Italy) 2014*
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## Academic Projects

### **Elimia: an autonomous exploration Lego robot [Python]**

- Prototype of an autonomous Lego robot capable of exploring a predefined area containing obstacles, developed for the course "Robotics: Science and System"
- Responsible for the mechanical design and construction of the robot, as well as the implementation of Dynamics and Kinematics principles for joints and motion control.

### **Machine Learning for Agile Requirement Engineering [Python]**

- Dissertation Project supervised by Dr. Vincenzo Lomonaco, Dr. Daniel Russo and Prof. Paolo Ciancarini

- **Main frameworks: scikit-learn, NLTK, doc2vec** (generalisation of word2vec)
- The objective of this project was to evaluate Machine Learning algorithms as support to the estimation phase in Agile projects.
- The project was developed in a series of phases: 1-Creation of a dataset composed by Agile requirements for a virtual software project; 2-Extraction of features from text, and Feature Engineering; 3-Experiments with regression algorithms; 4-Evaluation and discussion of the results

### uARM Kernel [C]

- Basic working nucleus for uARM (ARM7TDMI processor emulator) which provides system calls in both kernel-mode and user-mode
- The project organised into three major milestones: 1-Creation of the data structures and functions for processes and semaphores; 2-Implementation of a scheduler; 3-Implementation of a paging system
- Played the fundamental role of debugger and tester throughout the project while actively contributing to the actual implementation

### easyRASH [HTML, CSS, Python, JS]

- Online conference management system designed to simplify the peer reviewing process for scientific papers written in RASH (Research Articles in Simplified HTML)
- Main frameworks: Flask, AngularJS, Angular Material
- Designed the structure of the system using MVC concepts
- Lead the group assigning tasks considering the qualities and skills of each member

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## Research

### Character vs Subword-level models in Neural Machine Translation [not published]

Review paper for the Informatics Research Review (IRR) course.

The paper explores representation methods for NMT models by analysing and discussing the results obtained by state-of-the-art translation system.

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## Work Experience

- "La Giada" restaurant, Terni (Italy), 2010-2014, as waiter, web specialist and computer system manager
- Dr Rutili Roberta's accounting firm, Terni (Italy), October 2013, as accounting assistant
- Trend s.r.l., Terni (Italy), January 2013, as accounting assistant and SQL query optimiser
- "Fittuccia" pastry shop, Terni (Italy), July 2012, as assistant pastry chef

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## Additional Interests

- Martial Arts: Wing Chun (2011 – 2015), Ba Gua Zhang (2015-2016)
- Music: interested in Opera music and in playing the piano
- Art: Watercolourist, Digital Painter and Pencil Artist