



POLITECNICO
DI TORINO

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Erasmus+

FINAL PROJECT ASSESSMENT FOR POLITO EXCHANGE STUDENTS
Academic Year 2018/2019

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| STUDENT'S FAMILY NAME AND NAME: PASQUALE DIGIORGIO |
| PROJECT SUPERVISOR: CARLOS GARCÍA RUBIO |
| HOST INSTITUTION: Universidad Carlos III de Madrid |

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| PROJECT TITLE: Location learning and prediction in Social Networks |
| MONTHS DEVOTED TO THE PROJECT: 6 months |
| WORK LOAD IN ECTS CREDITS: 30 |

EVALUATION IN ECTS GRADING SCALE:

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|---|--------------|---|
| A | EXCELLENT | X |
| B | VERY GOOD | |
| C | GOOD | |
| D | SATISFACTORY | |
| E | SUFFICIENT | |

COMMENT OF THE FINAL PROJECT SUPERVISOR:

Pasquale is a final year student of the "Master Degree in Computer Engineering (Networking specialization)" of the Polytechnic University of Torino who has done the Master Thesis in our university through an Erasmus scholarship this semester. The topic that I proposed was to extract geolocated information from messages in social networks in order to apply the algorithms that we have applied in my group to traces of localization in cellular networks (<https://doi.org/10.3390/e20100736>). We had already done it with two Instagram traces from another research group (<https://doi.org/10.3390/electronics7120380>) but we wanted to be able to get our own geolocated traces of social networks to have more to work with. Initially we were interested in Instagram, Twitter and Facebook, in this order. This was the goal of Pasquale's Master Thesis.

Pasquale arrived in Madrid at the beginning of September. It has been these months dedicated 100% to the Master Thesis. He had no prior knowledge of the subject. He studied the APIs of these social networks, the python language (which he had not previously used) and different python libraries to access these networks. He has implemented the tracing applications for the three social networks, although the recent limitations of access in the Facebook and Instagram API make the only useful ones those of Twitter. As a proof of concept, he has launched a month-long Twitter tracing campaign (December 10 - January 10) to obtain geolocated traces of Madrid and Rome, and has passed the algorithms of <https://doi.org/10.3390/electronics7120380> to these traces (although they would need to be longer in order to obtain statistically significant results).

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Therefore, his Master Thesis has been divided into three phases:

- September - December 10: Learn environment, implementation and testing of trace capture programs.
- 10 December - 10 January: collection of traces on twitter.
- January 10 - February 5: analysis of collected traces and documentation.
- February 5 - February 20: preparation of the presentation.

The Master Thesis in University Carlos III of Madrid is awarded 12 ECTS, but Pasquale work has largely exceeded the requirements for a Master Thesis here, and has been in fact the equivalent to **30 ECTS** (40 hours/week during 6 months).

As required at the University Carlos III of Madrid, Pasquale made the presentation and defense of his master's thesis in February 20th, evaluated by a three-professor panel, obtaining an outstanding grade ("sobresaliente", equivalent to A, 9.5 points out of 10).

I believe that Pasquale has worked very consistently, we met weekly to see the progress, he worked autonomously on the topics that he suggested and, with the limitations of the APIs that are not attributable to him, he has managed to cover the objectives that we proposed. This is why I rate his work is EXCELLENT.

DATE: 22/02 /2019

SUPERVISOR'S SIGNATURE:



STAMP OF THE HOST INSTITUTION

Politecnico di Torino - Area Internazionalizzazione - Ufficio Mobilità - OUTGOING
Corso Duca degli Abruzzi, 24 - 10129 TORINO ITALY

Tel. +39 011.090.8664; Fax +39 011.090.8666; E-mail: mobilita.studenti@polito.it; Web site: <http://www.polito.it>