

# Angelo Ferrando

angelo.ferrando@dibris.unige.it | 3421761217

## EDUCATION

### UNIVERSITY OF GENOVA

#### BS IN COMPUTER SCIENCE WITH HONORS

September 2010 - July 2013 | University of Genova

#### MS IN COMPUTER SCIENCE WITH HONORS

September 2013 - October 2015 | University of Genova

#### PHD IN COMPUTER SCIENCE

November 2015 - March 2019 | University of Genova

## LINKS

<https://angeloFerrando.github.io/website/>  
 ResearchGate://[Angelo\\_Ferrando](#)  
 LinkedIn://[Angelo\\_Ferrando](#)  
 ORCID: 0000-0002-8711-4670

## COURSEWORK

### GRADUATE

Computer and Network Security  
 Computer Vision  
 Computer Graphics  
 Implementation of Programming Languages  
 Software System Design  
 Intelligent System  
 Machine Learning  
 Computational Intelligence  
 Computer-Aided Verification  
 Parallel Computing  
 Programming Paradigms

### UNDERGRADUATE

Algorithms and Data Structures  
 Object-Oriented Languages using Java and C#  
 Database  
 Concurrent Programming  
 Web application development  
 Processing systems and transmission  
 Software Engineering

## SKILLS

### PROGRAMMING

Over 5000 lines:

C • C++ • Java • C# • MySQL • PHP •  $\text{\LaTeX}$  • Prolog • HTML

Over 1000 lines:

Shell • CSS • JavaScript •

Familiar:

Python • Android • Matlab • Haskell

## WORK EXPERIENCE

### UNIVERSITY OF GENOVA | DIBRIS

March 2021 - present | Genova, Liguria, Italy  
 Research Fellow

### UNIVERSITY OF MANCHESTER | AUTONOMY & VERIFICATION LAB

July 2020 - February 2021 | Manchester, Greater Manchester, UK  
 Postdoctoral Research Associate

### UNIVERSITY OF LIVERPOOL | AUTONOMY & VERIFICATION LAB

December 2018 - July 2020 | Liverpool, Merseyside, UK  
 Postdoctoral Research Associate

### UNIVERSITY OF GENOVA | SOFTWARE ENGINEERING & PROGRAMMING LANGUAGES RESEARCH GROUP

November 2015 - March 2019 | Genova, Liguria, Italy  
 PhD Student.

### SIMULATION TEAM

October 2012 - May 2014 |

Via Luigi Cadorna, 2, 17100 Savona Province of Savona, Italy

### SOFTWARE DEVELOPER IN MODELING AND SIMULATION CONTEXT

I was actively involved in the development of an optimizer integrated in a simulation tool for the Early-Phase evaluation of new vessels. I was active in the development of simulation models for contract ongoing between MAST and OSN (FINCANTIERI and FINMECCANICA joint-venture). I was actively involved in a project for Modeling UAV in counter-insurgency and in the integration IA-CFG UCOIN project; in this project intelligent agents are used to simulate complex UAV activities integrated with joint operations over a North-African scenario. I had experience in Virtual Modeling with VEGA Prime and Multigen Creator.

## PROJECTS

### SMART ROGAINING

February 2018 - February 2018 |

Commissioned by Luca Gelati

(<https://www.linkedin.com/in/luca-gelati-5b30b038/>)

### WEBAPP FOR TEAM BUILDING

Development of a webapp for supporting team building experiences. The app is used to guide the players inside the game and allows interacting with a set of interesting points positioned on the map.

### PORTBOT April 2018 - December 2018 |

Commissioned by CIPI (<http://www.cipi.unige.it>)

### CHATBOT FOR THE PORT OF GENOVA

Development of a chatbot for supporting the call center of the port of Genova. The chatbot answers to generic and specific questions concerning the situation inside the port. The objective of this work is to have support off the clock, since the call center is not a 24h/24h service. The framework used for developing such kind of chatbot is called Dialogflow (<http://dialogflow.com/>).

### QUEIROLO & ASS. January 2018 - January 2019 |

Commissioned by Queirolo & ass. (<http://www.queirolo.eu>)

## VIDEO AND AUTO EXPERTISES

Development of a progressive webapp for supporting video and auto expertise for an insurance adjuster agency in Genova. The app is divided in two parts: Video and Auto. The video part allows the insurance adjuster to communicate directly with the client through a video chat. During this communication, the app supports also the exchange of information and datas to support the negotiation. The auto part allows the client to insert the datas relating to the damage in order to speed up the negotiation.

## LANGUAGE KNOWLEDGE

### **FIRST CERTIFICATE IN ENGLISH (FCE) LEVEL B2.**

## ORGANIZATIONAL SKILLS

I am able to organize my own goals and I have demonstrated in the workplace to be able to handle even the work of others. During my life I had to manage different situations in which it was required to be able to take decisions independently.

## DRIVING LICENSE

### **B LICENSE**

## HONORS AND AWARDS

- 1<sup>st</sup> place in the Multi-Agents Programming Contest, 2019.
- Best Paper Award at the 7th International Workshop on Engineering Multi-Agent Systems (EMAS 2019).
- Special mention for the Master's thesis: *"Trace expressions for runtime verification and protocol-driven behaviour"*.

## OTHER ACTIVITIES

### **STUDY ABROAD**

- 2 months at the University of Liverpool (Jan - Feb 2017)
- 1 month at the University of Lancaster (Feb - Mar 2018)
- 3 months at the University of Otago (July - Oct 2018)

### **ORGANIZATION**

- Organiser of the First Workshop on Agents and Robots for reliable Engineered Autonomy (AREA), ECAI 2020.
- Local organiser at the 15th International Conference of the Italian Association for Artificial Intelligence, Genova.

### **PHD SCHOOLS**

- Bertinoro International Spring School 2016 (BISS 2016)
- 12th Summer School on Modelling and Verification of Parallel Processes, (MOVEP 2016)
- 18th European Agent Systems Summer School (EASSS 2016)

### **COMPETITIONS**

- International Cultural and Academic Meeting of Engineering Students (ICAMES 2013)
- NASA - Simulation Exploration Experience (SEE 2013)
- NASA - Simulation Exploration Experience (SEE 2014)

## References

- [1] F. Aielli, D. Ancona, P. Caianiello, S. Costantini, G. D. Gasperis, A. D. Marco, A. Ferrando, and V. Mascardi. FRIENDLY & KIND with your health: Human-friendly knowledge-intensive dynamic systems for the e-health domain. In J. Bajo, M. J. Escalona, S. Giroux, P. Hoffa-Dabrowska, V. Julián, P. Novais, N. S. Pi, R. Unland, and R. A. Silveira, editors, *Highlights of Practical Applications of Scalable Multi-Agent Systems. The PAAMS Collection - International Workshops of PAAMS 2016, Sevilla, Spain, June 1-3, 2016. Proceedings*, volume 616 of *Communications in Computer and Information Science*, pages 15–26. Springer, 2016.
- [2] D. Ancona, D. Briola, A. Ferrando, and V. Mascardi. Global protocols as first class entities for self-adaptive agents. In G. Weiss, P. Yolum, R. H. Bordini, and E. Elkind, editors, *Proceedings of the 2015 International Conference on Autonomous Agents and Multiagent Systems, AAMAS 2015, Istanbul, Turkey, May 4-8, 2015*, pages 1019–1029. ACM, 2015.
- [3] D. Ancona, D. Briola, A. Ferrando, and V. Mascardi. Runtime verification of fail-uncontrolled and ambient intelligence systems: A uniform approach. *Intelligenza Artificiale*, 9(2):131–148, 2015.
- [4] D. Ancona, D. Briola, A. Ferrando, and V. Mascardi. Mas-drive: a practical approach to decentralized runtime verification of agent interaction protocols. In C. Santoro, F. Messina, and M. D. Benedetti, editors, *Proceedings of the 17th Workshop "From Objects to Agents" co-located with 18th European Agent Systems Summer School (EASSS 2016), Catania, Italy, July 29-30, 2016.*, volume 1664 of *CEUR Workshop Proceedings*, pages 35–43. CEUR-WS.org, 2016.
- [5] D. Ancona, A. Ferrando, L. Franceschini, and V. Mascardi. Parametric trace expressions for runtime verification of java-like programs. In *Proceedings of the 19th Workshop on Formal Techniques for Java-like Programs, Barcelona, Spain, June 20, 2017*, pages 10:1–10:6. ACM, 2017.
- [6] D. Ancona, A. Ferrando, L. Franceschini, and V. Mascardi. Coping with bad agent interaction protocols when monitoring partially observable multiagent systems. In Y. Demazeau, B. An, J. Bajo, and A. Fernández-Caballero, editors, *Advances in Practical Applications of Agents, Multi-Agent Systems, and Complexity: The PAAMS Collection - 16th International Conference, PAAMS 2018, Toledo, Spain, June 20-22, 2018, Proceedings*, volume 10978 of *Lecture Notes in Computer Science*, pages 59–71. Springer, 2018.
- [7] D. Ancona, A. Ferrando, L. Franceschini, and V. Mascardi. Managing bad aips with rivertools. In Y. Demazeau, B. An, J. Bajo, and A. Fernández-Caballero, editors, *Advances in Practical Applications of Agents, Multi-Agent Systems, and Complexity: The PAAMS Collection - 16th International Conference, PAAMS 2018, Toledo, Spain, June 20-22, 2018, Proceedings*, volume 10978 of *Lecture Notes in Computer Science*, pages 296–300. Springer, 2018.
- [8] D. Ancona, A. Ferrando, and V. Mascardi. Comparing trace expressions and linear temporal logic for runtime verification. In E. Ábrahám, M. M. Bonsangue, and E. B. Johnsen, editors, *Theory and Practice of Formal Methods - Essays Dedicated to Frank de Boer on the Occasion of His 60th Birthday*, volume 9660 of *Lecture Notes in Computer Science*, pages 47–64. Springer, 2016.

- [9] D. Ancona, A. Ferrando, and V. Mascardi. Parametric runtime verification of multiagent systems. In K. Larson, M. Winikoff, S. Das, and E. H. Durfee, editors, *Proceedings of the 16th Conference on Autonomous Agents and MultiAgent Systems, AAMAS 2017, São Paulo, Brazil, May 8-12, 2017*, pages 1457–1459. ACM, 2017.
- [10] D. Ancona, A. Ferrando, and V. Mascardi. Agents interoperability via conformance modulo mapping. In M. Cossentino, L. Sabatucci, and V. Seidita, editors, *Proceedings of the 19th Workshop "From Objects to Agents", Palermo, Italy, June 28-29, 2018.*, volume 2215 of *CEUR Workshop Proceedings*, pages 109–115. CEUR-WS.org, 2018.
- [11] S. Beux, D. Briola, A. Corradi, G. Delzanno, A. Ferrando, F. Frassetto, G. Guerrini, V. Mascardi, M. Oreggia, F. Pozzi, A. Solimando, and A. Tacchella. Computational thinking for beginners: A successful experience using prolog. In D. Ancona, M. Maratea, and V. Mascardi, editors, *Proceedings of the 30th Italian Conference on Computational Logic, Genova, Italy, July 1-3, 2015.*, volume 1459 of *CEUR Workshop Proceedings*, pages 31–45. CEUR-WS.org, 2015.
- [12] A. G. Bruzzone, L. Dato, and A. Ferrando. Simulation exploration experience: Providing effective surveillance and defense for a moon base against threats from outer space. In *18th IEEE/ACM International Symposium on Distributed Simulation and Real Time Applications, DS-RT 2014, Toulouse, France, October 1-3, 2014*, pages 121–126. IEEE Computer Society, 2014.
- [13] A. G. Bruzzone, F. Madeo, M. Dallorto, D. Poggi, and A. Ferrando. Different modeling and simulation approaches applied to industrial process plants. In C. D. Turnitsa, P. A. Youngman, T. Carmichael, M. Hadzikadic, R. Diaz, and F. Longo, editors, *Proceedings of the Emerging M&S Applications in Industry & Academia / Modeling and Humanities Symposium, part of the 2013 Spring Simulation Multiconference, SpringSim '13, San Diego, CA, USA, April 7-10, 2013*, page 6. ACM, 2013.
- [14] V. D. Fatto, G. Doderò, A. Bernhard, A. Ferrando, D. Ancona, V. Mascardi, R. Laurini, and G. Roccasalva. Hackmytown: an educational experience on smart cities. *IXD&A*, 32:153–164, 2017.
- [15] A. Ferrando. Parametric protocol-driven agents and their integration in JADE. In D. Ancona, M. Maratea, and V. Mascardi, editors, *Proceedings of the 30th Italian Conference on Computational Logic, Genova, Italy, July 1-3, 2015.*, volume 1459 of *CEUR Workshop Proceedings*, pages 72–84. CEUR-WS.org, 2015.
- [16] A. Ferrando. Automatic partitions extraction to distribute the runtime verification of a global specification. In V. Mascardi and I. Torre, editors, *Proceedings of the Doctoral Consortium of AI\*IA 2016 co-located with the 15th International Conference of the Italian Association for Artificial Intelligence (AI\*IA 2016), Genova, Italy, November 29, 2016.*, volume 1769 of *CEUR Workshop Proceedings*, pages 40–45. CEUR-WS.org, 2016.
- [17] A. Ferrando. The early bird catches the worm: First verify, then monitor! *Science of Computer Programming*, 2018.
- [18] A. Ferrando, D. Ancona, and V. Mascardi. Monitoring patients with hypoglycemia using self-adaptive protocol-driven agents: A case study. In M. Baldoni, J. P. Müller, I. Nunes, and R. Zalila-Wenkstern, editors, *Engineering Multi-Agent Systems - 4th International Workshop, EMAS 2016, Singapore, Singapore, May 9-10, 2016, Revised, Selected, and Invited Papers*, volume 10093 of *Lecture Notes in Computer Science*, pages 39–58. Springer, 2016.

- [19] A. Ferrando, D. Ancona, and V. Mascardi. Decentralizing MAS monitoring with decamon. In K. Larson, M. Winikoff, S. Das, and E. H. Durfee, editors, *Proceedings of the 16th Conference on Autonomous Agents and MultiAgent Systems, AAMAS 2017, São Paulo, Brazil, May 8-12, 2017*, pages 239–248. ACM, 2017.
- [20] A. Ferrando, S. Beux, V. Mascardi, and P. Rosso. Identification of disease symptoms in multilingual sentences: An ontology-driven approach. In D. Ienco, M. Roche, S. Romeo, P. Rosso, and A. Tagarelli, editors, *Proceedings of the First Workshop on Modeling, Learning and Mining for Cross/Multilinguality (MultiLingMine 2016) co-located with the 38th European Conference on Information Retrieval (ECIR 2016), Padova, Italy, March 20, 2016.*, volume 1589 of *CEUR Workshop Proceedings*, pages 6–15. CEUR-WS.org, 2016.
- [21] A. Ferrando, L. A. Dennis, D. Ancona, M. Fisher, and V. Mascardi. Recognising assumption violations in autonomous systems verification. In E. André, S. Koenig, M. Dastani, and G. Sukthankar, editors, *Proceedings of the 17th International Conference on Autonomous Agents and MultiAgent Systems, AAMAS 2018, Stockholm, Sweden, July 10-15, 2018*, pages 1933–1935. International Foundation for Autonomous Agents and Multiagent Systems Richland, SC, USA / ACM, 2018.
- [22] A. Ferrando, L. A. Dennis, D. Ancona, M. Fisher, and V. Mascardi. Verifying and validating autonomous systems: Towards an integrated approach. In C. Colombo and M. Leucker, editors, *Runtime Verification - 18th International Conference, RV 2018, Limassol, Cyprus, November 10-13, 2018, Proceedings*, volume 11237 of *Lecture Notes in Computer Science*, pages 263–281. Springer, 2018.
- [23] M. Massei, S. Poggi, M. Agresta, and A. Ferrando. Development planning based on interoperable agent driven simulation. *J. Comput. Science*, 5(3):395–407, 2014.
- [24] M. Massei, S. Poggi, A. Tremori, and A. Ferrando. Innovative models for supporting operational planning. *IJSPM*, 9(3):181–194, 2014.
- [25] A. Tremori, M. Agresta, and A. Ferrando. Simulation of autonomous systems in the extended marine domain. *IJSPM*, 11(1):9–23, 2016.