

Francesco Marchetti
Mechanical And Aerospace Engineering



Personal Statement

I am a PhD student at the University of Strathclyde, department of Aerospace and Mechanical Engineering in Glasgow and the topic of my PhD is "Intelligent Control for Access to Space". From May 2018 to November 2018 I have worked with MCA Engineering Italy as an external consultant at Mecaer Aviation Group, where I worked as Test engineer. My job consisted in: following the qualification test procedures performed on various components; analyze the data coming from these tests and preparing the necessary documents. About my academic background, in November 2017 I got my master degree in Aerospace Engineering, with major in Space Systems Engineering, at Polytechnic University of Turin. During my studies I spent one year in Aachen, Germany, thanks to the Erasmus+ programme, attending lectures and developing my master thesis at the RWTH Aachen University. This whole Erasmus experience taught me a lot in many ways, in particular, I think it really gave to my technical and social skills a big boost. My bachelor thesis was done at Thales Alenia Space in Turin and regarded the communication subsystem of a satellite; it was developed by me and other four students and was a very instructive experience because it taught me the significance of teamwork.

Qualifications

Master of Science, Politecnico di Torino (Italy)
1 Sep 2015 → 21 Nov 2017
Award Date: 21 Nov 2017

Bachelor of Science, Politecnico di Torino (Italy)
1 Sep 2012 → 22 Jul 2015
Award Date: 22 Jul 2015

Employment

Doctor of Philosophy, Intelligent Control for Access to Space. The aim of this project is to investigate and develop novel IC methods for launch and re-entry vehicles.

Mechanical And Aerospace Engineering
University Of Strathclyde
United Kingdom
1 Nov 2018 → present

Research outputs

Genetic programming guidance control system for a reentry vehicle under uncertainties

Marchetti, F. & Minisci, E., 6 Aug 2021, In: *Mathematics*. 9, 16, 19 p., 1868.

Convolutional Generative Adversarial Network, via Transfer Learning, for traditional Scottish music generation

Marchetti, F., Wilson, C., Powell, C., Minisci, E. & Riccardi, A., 17 May 2021, *Artificial Intelligence in Music, Sound, Art and Design: 10th International Conference, EvoMUSART 2021, Held as Part of EvoStar 2021, Virtual Event, April 7–9, 2021, Proceedings*. Romero, J., Martins, T. & Rodríguez-Fernández, N. (eds.). Cham, Switzerland: Springer, Vol. 12693. 16 p. (Lecture Notes in Computer Science).

Inclusive genetic programming

Marchetti, F. & Minisci, E., 15 Apr 2021, *Genetic Programming: 24th European Conference, EuroGP 2021, Held as Part of EvoStar 2021, Virtual Event, April 7–9, 2021, Proceedings*. Hu, T., Lourenço, N. & Medvet, E. (eds.). 1 ed. Springer International Publishing AG, Vol. 12691. p. 51-65 15 p.

A hybrid Neural Network-Genetic Programming Intelligent Control approach

Marchetti, F. & Minisci, E., 16 Nov 2020, *Bioinspired Optimization Methods and Their Applications*. Filipič, B., Minisci, E. & Vasile, M. (eds.). Cham, Switzerland: Springer, p. 240-254 15 p.

Towards intelligent control via genetic programming

Marchetti, F., Minisci, E. & Riccardi, A., 28 Sep 2020, *2020 International Joint Conference on Neural Networks (IJCNN)*. Piscataway, NJ.: IEEE, 8 p. 9207694

Classifying intelligence in machines: a taxonomy of intelligent control

Wilson, C., Marchetti, F., Di Carlo, M., Riccardi, A. & Minisci, E., 21 Aug 2020, In: *Robotics*. 9, 3, 19 p., 64.

Intelligent control: a taxonomy

Wilson, C., Marchetti, F., Di Carlo, M., Riccardi, A. & Minisci, E., 9 Jan 2020, p. 333-339. 7 p.

Towards intelligent control via genetic programming

Marchetti, F., Minisci, E. & Riccardi, A., 21 Nov 2019, p. 1-18. 18 p.

Trajectory optimization of a reusable launch vehicle

Marchetti, F., Minisci, E. & Riccardi, A., 29 Jun 2019.

Activities**10th International Conference on Artificial Intelligence in Music, Sound, Art and Design**

Francesco Marchetti (Participant)

7 Apr 2021 → 9 Apr 2021

24th European Conference on Genetic Programming

Francesco Marchetti (Participant)

7 Apr 2021 → 9 Apr 2021

Bioinspired Optimization Methods and their Applications 2020

Francesco Marchetti (Participant)

19 Nov 2020 → 20 Nov 2020

IEEE WORLD CONGRESS ON COMPUTATIONAL INTELLIGENCE (WCCI) 2020

Callum Wilson (Chair) & Francesco Marchetti (Chair)

23 Jul 2020

5th European Optimisation in Space Engineering Workshop

Francesco Marchetti (Participant)

21 Nov 2019 → 22 Nov 2019

17th Workshop on Advances in Continuous Optimization

Francesco Marchetti (Participant)

28 Jun 2019 → 29 Jun 2019