

Alessandro Pighetti

Current position

PhD Student in "Architectures supporting Machine Learning"
Joint Doctorate on Interactive and Cognitive Environments
Curriculum: Self-Aware Autonomous Systems
University of Genoa (ELIOS Lab)
Queen Mary University of London (Centre of Intelligent Sensing)

Areas of specialisation

Adversarial Machine Learning; Reinforcement Learning; Automotive

Education

Since 2022 PhD in Architectures supporting Machine Learning,
University of Genoa/Queen Mary University of London
2019-2022 MSc in Computer Science - Curriculum: Artificial Intelligence, University of Genoa
2016-2019 BSc in Computer Science, University of Genoa
2008-2013 SCIENTIFIC HIGH SCHOOL DIPLOMA, German School of Genova (DSG)

Languages

Italian (Mother tongue)
German (C2, German Abitur)
English (CEFR C1)
French (B2)

Projects

2022-2023 HI-DRIVE: Deployment of Higher Automation
Co-funded by the EU under Horizon 2020 programme - www.hi-drive.eu
Activity: development of a Deep Reinforcement Learning-based agent controlling a vehicle to perform low-speed maneuvers in a relatively narrow parking area

Scopus metrics

PUBLICATIONS: 8
INTERNATIONAL JOURNAL PUBLICATIONS: 1
H-INDEX: 2
CITATIONS: 6

Teaching activities

2023 Teaching support for the course "Cyber physical systems" (72306) - University of Genoa

Publications

INTERNATIONAL JOURNALS

- [1] R. Berta, L. Lazzaroni, A. Capello, M. Cossu, L. Forneris, A. Pighetti, and F. Bellotti, "Developing Deep-Learning-Based Autonomous Agents for Low Speed Maneuvering in Unity 3D," In Press to Journal of Intelligent and Connected Vehicles.
- [2] L. Forneris, A. Pighetti, L. Lazzaroni, F. Bellotti, A. Capello, M. Cossu, and R. Berta, "Implementing Deep Reinforcement Learning (DRL)-based Driving Styles for Non-Player Vehicles," International Journal of Serious Games, vol. 10, no. 4, pp. 153–170, Nov. 2023, doi: 10.17083/ijsg.v10i4.638.

INTERNATIONAL CONFERENCES

- [3] A. Pighetti, L. Forneris, F. Bellotti, A. Capello, M. Cossu, G. Gioco and R. Berta, "A Teacher-Configurable Scoring System for Serious Games," in Games and Learning Alliance, P. Dondio, M. Rocha, A. Brennan, A. Schönbohm, F. de Rosa, A. Koskinen, F. Bellotti, Eds., in Lecture Notes in Computer Science. Cham: Springer International Publishing, 2023, pp. 254–263, doi: 10.1007/978-3-031-49065-1_25.
- [4] L. Lazzaroni, A. Pighetti, F. Bellotti, and R. Berta, "Building a pipeline for efficient production of synthetic datasets for improving RL in automated driving," in: Ciofi, C., Limiti, Eds., in Lecture Notes in Electrical Engineering. Cham: Springer Nature Switzerland, 2024, pp. 351–356. doi: 10.1007/978-3-031-48711-8_42.
- [5] L. Lazzaroni, A. Pighetti, F. Bellotti, A. Capello, M. Cossu, and R. Berta, "Automated Parking in CARLA: a Deep Reinforcement Learning-based Approach," presented at the 2023 International Conference on Applications in Electronics Pervading Industry, Environment and Society (ApplePies). In press.

- [6] A. Pighetti, F. Bellotti, C. Oh, L. Lazzaroni, L. Forneris, M. Fresta, and R. Berta, “Investigating Adversarial Policy Learning for Robust Agents in Automated Driving Highway Simulations,” presented at the 2023 International Conference on Applications in Electronics Pervading Industry, Environment and Society (ApplePies). In press.
- [7] M. Fresta, A. Dabbous, F. Bellotti, A. Capello, L. Lazzaroni, A. Pighetti, and R. Berta, “Low-Cost, Edge-Cloud, End-to-End System Architecture for Human Activity Data Collection,” presented at the 2023 International Conference on Applications in Electronics Pervading Industry, Environment and Society (ApplePies), in press.
- [8] A. Pighetti, L. Forneris, L. Lazzaroni, F. Bellotti, A. Capello, M. Cossu, A. De Gloria, and R. Berta, “High-Level Decision-Making Non-player Vehicles,” in Games and Learning Alliance, K. Kiili, K. Antti, F. de Rosa, M. Dindar, M. Kickmeier-Rust, and F. Bellotti, Eds., in Lecture Notes in Computer Science. Cham: Springer International Publishing, 2022, pp. 223–233. doi: 10.1007/978-3-031-22124-8_22.
- [9] A. Capello, L. Forneris, A. Pighetti, F. Bellotti, L. Lazzaroni, M. Cossu, A. De Gloria, and R. Berta, “Investigating High-Level Decision Making for Automated Driving,” in Applications in Electronics Pervading Industry, Environment and Society, R. Berta and A. De Gloria, Eds., in Lecture Notes in Electrical Engineering. Cham: Springer Nature Switzerland, 2023, pp. 307–311. doi: 10.1007/978-3-031-30333-3_41.

NATIONAL CONFERENCES

- [10] A. Capello, L. Forneris, A. Pighetti, F. Bellotti, L. Lazzaroni, M. Cossu, A. De Gloria, and R. Berta, “Investigating High-Level Decision Making for Automated Driving,” in 53rd Annual Meeting of the Associazione Società Italiana di Elettronica (SIE), Pizzo (VV), 2022.