

Bruno Casella

PHD IN MODELING AND DATA SCIENCE · DATA SCIENTIST · COMPUTER ENGINEER

via Gallinaro 7B, Aci Castello, Italy · via Antonio Pigafetta 9, Turin, Italy

☎ (+39) 331-2373931 | ✉ casella0798@gmail.com, bruno.casella@unito.it | 🏠 casellajr.github.io | 📷 CasellaJr | 🌐 bruno-casella-76527a199/

Summary

PhD student in Modeling and Data Science at the University of Turin, granted by Leonardo Company. Have graduated in Computer Engineering in 2020 with a thesis on the performance of the Reinforcement Learning algorithm AlphaZero for the game of Chess in different game and resources scenarios. Have received the Master's Degree in Data Science for management in 2021 with a thesis on Federated Transfer Learning, proposing a novel technique based on test-time parameter aggregation of neural networks.

3+ years of software management experience.

Love for open source projects and big fan of Linux and macOS. Always interested in learning new technologies, tools and methods.

Work Experience

Professional accounting studio "Giuseppe Casella"

Catania, Italy

SOFTWARE MANAGER

Oct. 2017 - July 2021

- In charge of processing accounting data via remote connection system.
- Continuously improved the infrastructure architecture of the studio since launching the service.

Bar Pizzeria Via Caracciolo

Turin, Italy

WEB PROGRAMMER

Feb. 2022 - May. 2022

- <https://barpizzeriaviacaracciolo.github.io/>

Education

University of Catania

Catania, Italy

B.S. IN COMPUTER ENGINEERING

Oct. 2016 - Mar. 2020

- Graduated with a thesis on the evaluation of an AI Method based on Reinforcement Learning Method for the game of Chess.
- Final grade 100.

University of Catania

Catania, Italy

M.S. IN DATA SCIENCE FOR MANAGEMENT

Oct. 2019 - Sep. 2021

- Graduated with a thesis on Federated Transfer Learning using Network Composition, proposing a novel technique based on test-time parameter aggregation of neural networks.
- Final grade 110L.

University of Turin

Turin, Italy

PH.D. IN MODELING AND DATA SCIENCE

Nov. 2021 - Present

- Website <https://dottorato-mds.campusnet.unito.it/do/home.pl>
- Fields of interest:
 - Federated Learning
 - Transfer Learning
 - Confidential Computing
 - High Performance Computing
 - Deep Learning
 - Blockchain

Certificates

- 2021 **DEEP LEARNING WITH PYTORCH: ZERO TO GANS – Jovian.ai**, Jovian.ai link certificate
- 2021 **IMPROVING DEEP NEURAL NETWORKS: HYPERPARAMETER TUNING, REGULARIZATION AND OPTIMIZATION**, DeepLearning.AI, Coursera "Specialization" link certificate
- 2021 **NEURAL NETWORKS AND DEEP LEARNING**, DeepLearning.AI, Coursera "Specialization" link certificate
- 2021 **BLOCKCHAIN BASICS**, University of Buffalo, Coursera "Specialization" link certificate

Publications

CONFERENCE

2022	Transfer Learning via Test-Time Neural Networks Aggregation , B. Casella, A. B. Chisari, S. Battiato, M. V. Giuffrida, VISAPP	Online
2022	Benchmarking FedAvg and FedCurv for Image Classification Tasks , B. Casella, R. Esposito, C. Cavazzoni, M. Aldinucci, ITADATA	Milan, Italy
2022	Federated Learning meets HPC and Cloud , I. Colonnelli, B. Casella, G. Mittone, Y. Arfat, B. Cantalupo, R. Esposito, A. R. Martinelli, D. Medic, M. Aldinucci, ML4ASTRO	Catania, Italy
2023	Predicting Cryptocurrencies Market Phases Through On-Chain Data Long-Term Forecasting , B. Casella, L. Paletto, ICBC	Dubai, United Arab Emirates

JOURNAL

2023	Predictors of target lesion failure after treatment of left main, bifurcation, or chronic total occlusion lesions with ultrathin-strut drug-eluting coronary stents in the ULTRA registry , O. de Filippo et al., CCI	Online
2023	FedER: Federated Learning Through Experience Replay and Privacy-Preserving Data Synthesis , M. Pennisi, F. Proietto Salanitri, G. Bellitto, B. Casella, M. Aldinucci, S. Palazzo, C. Spampinato, submitted to CVIU	Online
2023	MIFL: Multi-Input Neural Networks in Federated Learning , B. Casella, W. Riviera, M. Aldinucci, G. Menegaz, submitted to Cell Patterns	Online
2023	Experimenting with Normalization Layers in Federated Learning on non-IID scenarios , B. Casella, R. Esposito, A. Sciarappa, C. Cavazzoni, M. Aldinucci, submitted to IEEE TNNLS	Online

Language skills

Mother tongue

ITALIAN

Proficient

ENGLISH

- Listening understanding: B2
- Listening reading: C2
- Spoken production: B2
- Spoken interaction: B2
- Writing: C2

Digital skills

Gimp | Adobe Photoshop | DaVinci Resolve

PHOTO AND VIDEO EDITING