Alberto **Tonda**

Research Scientist · Evolutionary Computation · Machine Learning · Bioinformatics · Food Processing

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"And there may yet be a Heaven, but it's not going to be perfect, and we are going to have to build it ourselves."

Research Activities

My research interests lie at the intersection between computer science and life sciences. In the field of computer science, my activities focus on evolutionary algorihtms (EAs) and machine learning (ML). The main applications in life sciences are connected to bioinformatics for health sciences, and food transformation processes.

Improvement of EAs EAs are population-based stochastic optimization techniques, where a set of candidate solutions called *population* is maintained at every iteration. Preserving diversity in the population is commonly considered to be a key factor for the performance of EAs, but while evaluating diversity is straightforward for problems optimizing a vector of real values, it becomes much harder when the structure of a candidate solution is a binary tree, or a graph. I presented contributions on computing distances to evaluate diversity between complex candidate solutions [84, 91, 108], and published a review of diversity preservation methods for population-based optimization algorithms [26]. I also co-organized a tutorial and a workshop on diversity preservation in leading conferences of the field (ACM GECCO, IEEE CEC, PPSN). My other contributions to the field of EAs include devising a benchmark for cooperative coevolutionary algorithms [33, 97] and proposing solutions for the automated tuning of internal parameters [78].

Interpretability of ML models While generally effective, models obtained through ML are often black boxes, as it is practically impossible for humans to infer their decision processes, due to their sheer complexity. Some of my early works dealt with creating white-box, human-readable ML models such as systems of Ordinary Differential Equations (ODEs) [83], and integrating expert knowledge with data-driven models [81, 88, 92]. More recently I investigated the relationships between datasets characteristics and generalization abilities of models [117], and experimented with the translation of Explainable AI (XAI) techniques from the field of image analysis to genomic data [2]. Furthermore, I explored different approaches to feature and sample selection, the process of identifying the most compact sect of meaningful information to explain a ML algorithm decisions on a target problem [41, 42, 44, 46, 49, 50, 51]. As one of the leads in this research line includes combining EAs and ML, I am recognized as one of the experts of this niche, and as a consequence I co-organized tutorials on the subject in several specialized conferences (ACM GECCO, PPSN) plus an invited lecture in the summer school organized by COST Action CA15140 *Improving Applicability of Nature-Inspired Optimisation by Joining Theory and Practise*.

Bioinformatics In recent years, my research activities have branched to the application of ML and EAs to bioinformatics, thanks to a long-standing collaboration with the University of Utrecht (The Netherlands), with the recent addition of partners from the University of Cambridge (UK). The case studies I tackled include automatic discovery of micro-RNA signatures for tumors [12, 19, 52], batch correction of genomic datasets [47], and automatic primer design for viruses, with a focus on SARS-CoV-2 [2, 39]. Following these activities, I joined COST Action CA18131 *Statistical and Machine Learning Techniques in Human Microbiome Studies* (2019-2023), where I am currently one of the two representatives for France in the Management Committee.

Modeling of Food Transformation Processes Starting with my first post-doctoral position, I applied computational intelligence techniques to the field of food processing, a domain where the limited amount of data and the abundance of expert knowledge pose interesting challenges to ML and AI algorithms. This activity later became the main focus of my career as a permanent researcher at INRA/INRAE. The case studies I tackled, carried out mainly in the scope of the co-supervisions of PhD students Etienne Descamps and Thomas Chabin, include modeling diary emulsions [31, 74], freeze-drying of lactic acid bacteria [53, 57, 63],

biscuit cooking [55], cleaning processes of industrial machines [5, 15], behavior of the pepsin enzyme [22, 60, 75], ecosystem services [112]. I later chaired the European COST Action CA15118 *Mathematical and Computer Science Methods for Food Science and Industry* (2016-2020), a networking project that gathered experts from both academia and industry, to make a point on the state of the art and the possible future trajectories of the sector. The project led to several reviews and position papers [10, 14, 17, 45]. As an expert of the domain, I have been involved in several other internal INRAE activities that also led to position papers [8, 11, 18, 25, 111, 113], and I have provided my perspective in two invited talks at Académie de Technologies (Paris, France) and at the University of Sarajevo (Bosnia-Herzegovina).

AI in Games Since my Master, I developed an interest in AI applied to gaming. Games are an ideal benchmark for computational intelligence techniques, as creating an interesting opponent for humans requires software that is not only challenging, but also able to induce the tactics used by its adversaries. In this research line, I first worked on an AI able to model the opponent's behavior in the iterated Prisoner's Dilemma using EAs [28, 86], during my PhD co-supervision of Marco Gaudesi. I then tackled the automatic development of bots for the real-time strategy game StarCraft [80], submitting the first participant to the Student StarCraft AI Competition being entirely designed by another algorithm. A few years ago I started an ongoing project on developing competitive AIs for HearthStone, a collectible card game played online [4, 21, 73]. In the scope of these activities, since 2017 I have been co-chairing the session dedicated to games in the EvoSTAR conference.

Automated Support for Hardware and Software Several of my early research activities were centered around the development of automated techniques to support hardware testing, ranging from the generation of programs to test specific parts of the hardware [32, 34, 93, 95, 98, 100], to fail-test generation for complex CPUs [96, 101, 102, 106], to compensation of defects in electronic noses [35, 94, 103, 105]. In the domain of software, I applied the same ideas to software testing [36, 68, 107], analysis of network protocols [27, 30, 76, 85, 82, 85, 89], and detection of malicious applications [16, 67, 79], with these last two activities carried out mainly in the scope of my co-supervision of PhD students Marco Gaudesi and Andrea Marcelli. More recently, I started the co-supervision of PhD student Eliana Giovannitti on the subject of automated discovery of backlash issues in industrial equipment [43].

Education

Université Paris-Saclay — *Paris, France*

Habilitation à Diriger des Recherches (HDR) in Computer Science (11/03/2022) — *Mar. 2022*

- French degree granting the holder the right of being the main supervisor of Ph.D. students.
- In order to obtain the degree, a considerable level of seniority in research has to be proven.
- Candidates are evaluated on publications, participation to projects, and joint co-supervision of Ph.D. students.
- Manuscript title: *Computational Intelligence Techniques for Food and Health Sciences*

Politecnico di Torino — *Torino, Italy*

Ph.D. in Computer Science and Engineering (11/04/2011) — *Jan. 2008 - Dec. 2010*

- Applications of evolutionary computation to games, hardware and software testing.
- 3 publications in international peer-reviewed journals.
- 14 publications in international peer-reviewed conferences.

Politecnico di Torino — *Torino, Italy*

M.S. in Computer Science and Engineering — *Jan. 2004 - Jan. 2007*

- Master thesis on automatic generation of artificial intelligence for boardgames (Quarto), using evolutionary computation.
- Magna cum laude. (110/110L)

Politecnico di Torino — *Torino, Italy*

B.S. in Computer Science and Engineering — *Sep. 2001 - Jan. 2004*

Experience

INRAE (National Research Institute for Agriculture, Food and the Environment) *Paris, France*

Chargé de Recherche, Classe Normale (CRCN) / Permanent Researcher *Jan. 2020 - Current*

- Employed in Joint Research Unit UMR 518 MIA-Paris (Mathématiques et Informatique Appliquées).
- Part of team EKINOCS (Expert Knowledge, INteractive modellINg and decisiOn makINg in dYNamic Complex Systems).
- Moved to a new JRU with all my previous team, due to the reorganization process of the new institute INRAE.
- Referent for the internal INRAE network on European projects, coordinating activities between the TRANSFORM department and the JRU.
- Participant to the committee for the definition of the scientific objectives of the INRA (who would then become INRAE) inter-department funding meta-programme on numeric agriculture (DigiGral).

INRA (National Research Institute for Agriculture) *Plaisir-Grignon, France*

Chargé de Recherche, 1ère Classe (CR1) / Classe Normale (CRCN) / Permanent Researcher *Jan. 2017 - Dec. 2019*

- Employed in Joint Research Unit UMR 782 GMPA (Génie et Microbiologie des Procédés Alimentaires).
- Co-leader of team MALICES (2019-2020).
- Referent for the internal INRA network on European projects, coordinating activities between the CEPIA department and the JRU.
- Coordinator of the Modeling group during the preparation of the roadmap document of the Joint Research Unit "SayFood" (UMR 782 and UMR 1145)
- After a positive evaluation, obtained the internal promotion from CR2 to CR1.

INRA (National Research Institute for Agriculture) *Plaisir-Grignon, France*

Chargé de Recherche, 2ème Classe (CR2) / Permanent Researcher *Sep. 2012 - Dec. 2016*

- Employed in Joint Research Unit UMR 782 GMPA (Génie et Microbiologie des Procédés Alimentaires).
- Part of team MALICES (Modélisation des Systèmes Alimentaires et Biologiques Complexes).
- Recruited in a position with job description "Knowledge engineering, modeling and analysis of complex food systems with a focus on reverse engineering and eco-design".

INRIA (National Research Institute for Computer Science and Automation) *Saclay, France*

Post-doctoral Researcher *July 2012 - August 2012*

- Employed in the ANR Project *EASEA-Cloud*
- Massive parallelization of evolutionary algorithms.
- Completed an efficient encoding of genetic programming trees, optimized for exchange of information over a network.

CNRS Institut des Systèmes Complexes (Complex Systems Institute) *Paris, France*

Post-doctoral Researcher *May 2011 - June 2012*

- Employed in the European FP7 project *DREAM*.
- Machine learning of food processing models, integrating human expertise.
- Developed innovative structure learning algorithms for Bayesian networks that are efficient even with limited datasets.

Politecnico di Torino *Torino, Italy*

Post-doctoral Researcher *Jan. 2011 - April 2011*

- Applications of evolutionary computation to games, hardware and software testing.

Bibliometrics

h-index	18 (Google Scholar), updated on May 1, 2022
i10-index	38 (Google Scholar), updated on May 1, 2022
Citations	1,162 (Google Scholar), updated on May 1, 2022
Publications	36 in peer-reviewed journals, 72 in peer-reviewed international conferences

Skills

Programming	Python, C/C++, Scala, JAVA
Stochastic Optimization	Evolutionary algorithms, Genetic programming
Machine Learning	Deep neural networks, Bayesian networks, Feature selection, Explainable AI
Languages	Italian (native), English (C2), French (B1)

Editorial Boards

2020- **Board member,** Frontiers in Sustainability (ISSN 2673-4524) *Frontiers*

2016- **Board member,** Genetic Programming and Evolvable Machines (ISSN 1573-7632) *Springer*

Program Committees (International Conferences)

ACM GECCO, Genetic and Evolutionary Computation Conference

Organizer of workshops, tutorials, proceedings chair, reviewer *2012 - 2021*

- Proceedings chair (2021)
- Co-organizer of the tutorial *Evolutionary Algorithms & Machine Learning, synergies and challenges* (2020)
- Co-organizer of the workshop on *Measuring and Promoting Diversity in Evolutionary computation* (2016)
- Co-organizer of the tutorial on *Measuring and Promoting Diversity in Evolutionary Algorithms* (2016)
- Reviewer (2012-2020)

IEEE CEC, Conference on Evolutionary Computation / IEEE WCCI

Organizer of tutorials, Reviewer *2014 - 2020*

- Co-organizer of tutorial *A Brief Introduction to Diversity-Preservation Methodologies in Evolutionary Optimization* (2014).
- Every two years, the IEEE CEC conference is co-hosted with the IEEE World Congress on Computational Intelligence (IEEE WCCI)
- Reviewer (2014-2021)

EvoSTAR, leading European conference on evolutionary computation

Organizer of tracks, reviewer *2012 - 2021*

- Co-organizer of the track on applications to Games (2017-2021)
- Reviewer (2012-2021)

Parallel Problem Solving from Nature, conference on bio-inspired optimization

Organizer of special tracks, reviewer *2016 - 2020*

- Co-organizer of the workshop on *Evolutionary Machine Learning* (2018)
- Co-organizer of the tutorial *A Brief Introduction of Diversity-Preservation Methodologies in Evolutionary Optimization* (2016)
- Reviewer (2016-2020)

FOODSIM, Biennial international conference on simulation in food science

Organizer of special sessions, reviewer *2018 - 2020*

- Organizer of the special session on COST Action CA15118 *FoodMC* (2020)
- Reviewer (2018-2020)

AAAI Conference on Artificial Intelligence

Reviewer *2021*

EA, biennial international conference on artificial evolution

Reviewer *2015 - 2021*

IEEE FRUCT, Finnish-Russian University Cooperation in Telecommunications

Reviewer *2020 - 2021*

ICORES, International Conf. on Operations Research and Enterprise Systems

Reviewer *2018 - 2020*

IMMM, International Conf. on Advances in Information Mining and Management

Reviewer *2015 - 2016*

Program Committees (National Events)

JET, Journée Evolutionnaire Thématique

Organizer *2015 - 2016*

- Annual seminar of the French association for artificial evolution.

Reviewing Activities

Ph.D. Defense Committees

External commission member *2019-2021*

- Anja Jankovic, *Towards Online Landscape-Aware Algorithm Selection in Numerical Black-Box Optimization*. Supervisor: Carola Doerr, Sorbonne University, France (2021)
- Denis Antipov, *Methods for Tight Analysis of Population-based Evolutionary Algorithms*. Supervisor: Benjamin Doerr, École Polytechnique, France (2020)
- Adrian Romero Caceres, *Evolutive Extraction of Parameter in Organic Thin-Film Transistor Compact Models*. Supervisors: J. G. Penalver and J. A. Jimenez Tejada, University of Granada, Spain (2019)
- Francesco Rossi, *Computer-Aided Technologies for Food Risk Assessment*. Supervisor: Alfredo Benso, Politecnico di Torino, Italy (2019)

Université Paris-Saclay

Reviewer of proposals for the UDOPIA call for PhD funding in Artificial Intelligence *2021*

The Cyprus Institute, Cyprus

Reviewer of project proposals for Production Access to HPC Resources *2021*

European Agency for COoperation in Science and Technology (COST)

Reviewer of project proposals *2019*

National Centre of Science and Technology Evaluation (NCSTE), Kazakhstan

Reviewer of project proposals *2018-2019*

Food Science Books Division, Elsevier

Reviewer of book proposals *2019*

International Peer-reviewed Journals

Reviewer of journal papers *2013-2020*

- Ad Hoc Networks, Elsevier, ISSN 1570-8705 (2014)
- Agriculture, MDPI, ISSN 2077-0472 (2016)
- Algorithms, MDPI, ISSN 1999-4893 (2013)
- Applied Sciences, MDPI, ISSN 2076-3417 (2020)
- Applied Soft Computing, Elsevier, ISSN 1568-4946 (2018)
- Artificial Intelligence in Medicine, Elsevier, ISSN 0933-3657 (2021)
- Automation in Construction, Elsevier, 0926-5805 (2018)
- Beverages, MPDI, ISSN 2079-7737 (2019)
- Biology, MDPI, ISSN 2079-7737, Special Issue on Developments in Bioinformatic Algorithms (2013)
- Cogent Engineering, Taylor & Francis, ISSN 2331-1916 (2021)
- Computational Intelligence, Wiley, ISSN 1467-8640 (2019)
- Computational Intelligence and Neuroscience, Hindawi, ISSN 1687-5265 (2015, 2016)
- Computer Networks, Elsevier, ISSN: 1389-1286 (2019)
- Entertainment Computing, Elsevier, ISSN 1875-9521 (2016)
- Evolutionary Intelligence, Springer, ISSN 1864-5909 (2018)
- Frontiers in Robotics and AI, Frontiers, ISSN 2296-9144 (2021)
- Future Generation Computer Systems, Elsevier, ISSN 0167-739X (2019)
- Genetic Programming and Evolvable Machines, Springer, ISSN 1389-2576 (2018, 2019, 2020)
- Genomics, Elsevier, ISSN 0888-7543 (2021)
- Global Environmental Change, Elsevier, ISSN 0959-3780 (2019, 2020)
- IEEE Access, ISSN 2169-3536, (2018, 2020, 2021)
- IEEE Transactions on Cybernetics, ISSN 2168-2267 (2018, 2020)
- IEEE Transactions on Evolutionary Computation, ISSN 1089778X (2017, 2018, 2019, 2020)
- Information Sciences, Elsevier, ISSN 0020-0255 (2017)
- International Journal of Swarm Intelligence and Evolutionary Computation, OMICS/Longdom, ISSN 2090-4908 (2014)
- International Journal of Business Intelligence and Data Mining, Inderscience, ISSN 1743-8187 (2020)
- ISA Transactions, Elsevier, ISSN 0019-0578 (2016)
- Journal of Cleaner Production, Elsevier, ISSN 0959-6526 (2014, 2015)
- Journal of Computational Science, Elsevier, ISSN 1877-7503 (2019)
- Journal of Food Engineering, Elsevier, ISSN 0260-8774 (2018, 2019, 2020)
- Journal of Food Process Engineering, Wiley, ISSN 1745-4530 (2018, 2019)
- Journal of Machine Learning Research, Microtome Publishing, ISSN 1532-4435 (2018)
- Journal of Systems Science and Complexity, ISSN 1009-6124, Special Issue on Complex Systems and Sports (2013)
- Mathematics, MDPI, ISSN 2227-7390 (2019)
- Methods and Protocols, MDPI, ISSN 2409-9279 (2020)
- Open Mathematics, De Gruyter, ISSN 2391-5455 (2018)
- Science Translational Medicine, AAAS, ISSN 1946-6242 (2020)
- Scientific Reports, Nature, ISSN 2045-2322 (2020)
- Soft Computing, Springer, ISSN 1432-7643 (2014, 2016)
- Swarm and Evolutionary Computation, Elsevier, ISSN 2210-6502 (2017, 2018)

Invited Contributions

2021	**Invited talk**, *Emergence of Meaning in ML Embeddings*, at C. for Logic, Language, and Cognition	*Torino, Italy*
2020	**Invited lecture**, *Epistemology of Machine Learning*, at Friedrich-Alexander-Universität	*Erlangen, Germany*
2020	**Invited talk**, *Machine Learning in Food Transformation Processes*, at Académie de Technologies	*Paris, France*
2018	**Invited lecture**, *Epistemology of Machine Learning*, at Friedrich-Alexander-Universität	*Erlangen, Germany*
2018	**Invited talk**, *Machine Learning in the Food Sector*, at University of Sarajevo	*Sarajevo, BH*
2017	**Invited commentary**, *(Over-)Realism in Evolutionary Computation*, in journal GPEM [23]	*Springer*
2017	**Invited talk**, IOBC Conference on Integrated Protection of Stored Foods [62]	*Ljubljana, Slovenia*

Honors & Awards

2020	**1st place**, Leaderboards for coreset discovery on 14 different datasets, with [116]	*Papers With Code*
2018	**2nd place**, HearthStone AI competition at the CIG Conference, with [4]	*Maastricht, NL*
2017	**Best paper award**, EvoSTAR conference, EvoApps track, for [61]	*Amsterdam, NL*
2014	**GENIL award**, Tied to the 2014 EvoSTAR best paper award	*Granada, Spain*
2014	**Best paper award**, EvoSTAR conference, for [83]	*Granada, Spain*
2012	**Honorable mention**, GECCO Human-Competitive Awards	*Philadelphia, USA*
2011	**Finalist**, STARTENT Project, Future Entrepreneurs category	*Torino, Italy*

Projects and Funding

Mathematical and Computer Science Methods for Food Science and Industry (CA15118 FoodMC)

COST Action

Project Chair — *2016 - 2020*

- Duties included leading the project, coordinating activities, organizing meetings
- European networking project involving more than 50 researchers from over 30 countries
- The project led to several joint publications from participants. Among others: [10, 14, 17, 45, 58, 62]
- Funded by COST, European agency on cooperation in science and technology, total budget around 120k€/year

Sustainable Insect Chain (SUSINCHAIN)

H2020

Project Participant — *2019 - 2023*

- Involved in WP7, dealing with modeling and optimization of insect supply chains for food and feed
- Funded by the H2020 framework program on call LC-SFS-17-2019, participant budget around 100k€

Statistical and Machine Learning Techniques in Human Microbiome Studies (CA18131 ML4Microbiome)

COST Action

Management Committee Member — *2019-2023*

- One of the two MC Members representing France in the Action
- Involved in WG3, dealing with the standardization of ML techniques for genomic microbiome information

Artificial Metabolic Networks

ANR AAPG Project

Project Participant — *2022-2026*

- Project funded by the French National Agency for Research
- Includes funding for one Ph.D. student, of which I will be the main supervisor

Modélisation d'Accompagnement pour une Gestion Nouvelle et Intégrée des Fongicides et herbicides: Innovation, Conception collective et Exploration de Nouvelles Techniques (MAGNIFICENT7)

Meta-program SUMCROP, INRAE

Project Participant — *2020-2024*

- Involved in the development of a multi-agent system to simulate interactions between stakeholders
- Funded by inter-department meta-program SUMCROP, INRAE

TRAjectoires de transition VErtueuses pour la Réduction des usages des pesticides aSsociant les leviers Ecologiques, Economiques, Sociaux et institutionnels à l'échelle du territoire (TRAVERSéES)

Plan Ecophyto II, ANR

Project Participant — *2020-2022*

- Involved in the WP dealing with ecosystem modelling and interaction between stakeholders
- Funded by ANR call Ecopyhto II, for the reduction of pesticides in agriculture

Bien-Etre, Santé et SysTèmes d'Elevages (BEST)

Meta-program SANBA, INRAE

Project Participant — *2019-2023*

- Involved in the WP dealing with ecosystem modelling and interaction between stakeholders
- Funded by inter-department meta-program SANBA, INRAE

G-ENACTS, GEnomic aNalysis to ACcurately deTect SARS-CoV-2

SURFSara, The Netherlands

Project Participant — *2019*

- Involved in the WP for the automatic generation of primers for SARS-CoV-2, see [7]
- Total budget around 20k€, to be spent on up to 90,000 hours of cloud computation

PERFModel, Plate ExchangeR Fouling Model

TRANSFORM department, INRAE

Project Participant — *2018-2019*

- Involved in the machine learning of fouling models for plate exchangers in milk processing, see [5, 15]
- Funded by the INRAE TRANSFORM department, through an internal call for projects

AromOpti, Optimizing models for wine aromas

TRANSFORM department, INRAE

Project Participant — *2015-2016*

- Optimizing models for predicting aromatic qualities of wine
- Funded by the INRAE TRANSFORM department, through an internal call for projects

EvOxyde, Generating models for oxidation of meat

TRANSFORM department, INRAE

Project Participant — *2014-2015*

- Modelling meat oxidation using machine learning
- Funded by the INRAE TRANSFORM department, through an internal call for projects

Interactive Structure Learning for Models of Food Processes *TRANSFORM department, INRAE*

Project Leader *2013-2014*

- Devising new approaches for interactive machine learning applied to food processes, from limited datasets, see [81, 88]
- Funded by the INRAE TRANSFORM department, through an internal call for projects

Supervision Activities

PhD Students (5)

Eliana Giovannitti *SCU.DO., Politecnico di Torino, Italy*

Computational Intelligence Techniques for Automatic Controls *2018-ongoing*

- Shared main supervision (50%) with Prof. Giovanni Squillero
- Joint publications: [38, 43]

Thomas Chabin *ABIES, AgroParisTech, France*

Modélisation Interactive globale d'un Système de production de Micro-organismEs (MIME) *2016-2019 (not defended)*

- Shared supervision (20%) with Dr. Nathalie Méjean-Perrot (INRAE) and Dr. Evelyne Lutton (INRAE), main supervisors
- Joint publications: [18, 53, 56, 57, 63, 64, 113]
- Currently employed as a Consultant at Astek, Boulogne-Billancourt, France

Etienne Descamps *ABIES, AgroParisTech, France*

Approche de modélisation Monte-Carlo individu-centrée opérant par événements discrets, appliquée à un procédé d'homogénéisation d'une émulsion laitière *2013-2016*

- Shared supervision (30%) with Dr. Nathalie Méjean-Perrot (INRAE) and Prof. Cristian Trelea (AgroParisTech), main supervisors
- Joint publications: [74]
- Currently employed as a Software Engineer at Numalis, Montpellier, France

Andrea Marcelli *SCU.DO., Politecnico di Torino, Italy*

Machine Learning and other Computational-Intelligence Techniques for Security Applications *2015-2018*

- Shared supervision (30%) with Prof. Giovanni Squillero, main supervisor
- Joint publications: [16, 54, 59, 61, 67, 79]
- Currently employed as a Malware Research Engineer at Talos-Cisco, Antibes, France

Marco Gaudesi *SCU.DO., Politecnico di Torino, Italy*

Advanced Techniques for Solving Optimization Problems through Evolutionary Algorithms *2012-2015*

- Shared supervision (30%) with Prof. Giovanni Squillero, main supervisor
- Joint publications: [28, 67, 78, 79, 82, 84, 86, 87, 90, 91, 93]
- Currently employed as a Senior Research Scientist at Nuance Communications, Torino, Italy

Master Students (15)

Taha Zafar *Politecnico di Torino, Italy*

Unsupervised conceptual extraction in Deep Neural Networks *2021*

- Co-supervised with Prof. Giovanni Squillero, Politecnico di Torino, Italy, and Pietro Barbiero, University of Cambridge, UK.

Sofia Borgato *Politecnico di Torino, Italy*

Graph Neural Networks for the Analysis of Bacterial DNA *2021*

- Co-supervised with Prof. Giovanni Squillero, Politecnico di Torino, Italy, Dr. Giulio Ferrero, Università di Torino, Italy, and Pietro Barbiero, University of Cambridge, UK.

Simone Alessandrì *Politecnico di Torino, Italy*

Convolutional Neural Networks for the Analysis of Bacterial DNA *2021*

- Co-supervised with Prof. Giovanni Squillero, Politecnico di Torino, Italy, Dr. Giulio Ferrero, Università di Torino, Italy, and Pietro Barbiero, University of Cambridge, UK.

Arthur Cahu *École Polytechnique, France*

Deep Learning Techniques for the Analysis of Bacterial DNA *2021*

Joao Henrique Oliveira *École Polytechnique, France*

Machine Learning Extreme Values of Insect Infestations in Hop Fields *2020*

Luca Barillari — *Politecnico di Torino, Italy*

Design and Development of a Python Package for a General-Purpose Evolutionary Algorithm — *2020*

- Co-supervised with Prof. Giovanni Squillero, Politecnico di Torino

Zi Wang — *Politecnico di Torino, Italy*

Machine Learning Extreme Values of Insect Infestations in Hop Fields — *2020*

- Co-supervised with Prof. Giovanni Squillero and Prof. Sandro Cumani, Politecnico di Torino

Pietro Barbiero — *Politecnico di Torino, Italy*

Novel Neural Techniques for Gene Expression Analysis in Cancer Prognosis — *2019*

- Co-supervised with Prof. Elio Piccolo, Politecnico di Torino
- Joint publications: [49, 52]

Hélène Ta — *AgroParisTech, France*

Mise en place d'une méthode d'optimisation automatique d'un réseau bayésien dynamique de prédiction de la maturation physico-chimique et sensorielle des baies de chenin vers une prédiction de la qualité du vin par logique flou — *2019*

- Co-supervised with Dr. Nathalie Méjean-Perrot, INRAE

Marcello Lanciani — *Politecnico di Torino, Italy*

Computational Intelligence Techniques for Cooperative Scenarios — *2019*

- Co-supervised with Prof. Giovanni Squillero, Politecnico di Torino

Nicolò Malfatto — *Politecnico di Torino, Italy*

Design and development of a portable, general-purpose evolutionary optimizer — *2018*

- Co-supervised with Prof. Giovanni Squillero, Politecnico di Torino

Benjamin Lemaitre — *Université de Caen, France*

Développement Python de fonctionnalités interactives pour un logiciel de recherche scientifique en modélisation semi-automatique — *2017*

- Co-supervised with Thomas Chabin, PhD student, INRAE

Alican Turk — *Politecnico di Torino, Italy*

Use of intelligent techniques for countering emerging malware in mobile devices — *2017*

- Co-supervised with Prof. Giovanni Squillero, Politecnico di Torino

Jany Belluz — *INP Ensimag, Grénoble, France*

Analyse et conception de méthodologies applicables sous forme d'algorithmes évolutionnistes pour le traitement de problèmes qui nécessitent un ensemble de solution homogènes — *2015*

- Co-supervised with Prof. Giovanni Squillero, Politecnico di Torino
- Joint publications: [78]

Thomas Chabin — *U. Pierre et Marie Curie, Paris, France*

Sensitivity analysis for evolutionary optimization of oxidative reactional systems — *2014*

- Co-supervised with Dr. Evelyne Lutton, INRAE
- Joint publications: [64, 77]

Post-doctoral Researchers (3)

Nisrine Mouhrim — *INRAE, France*

Project SUSINCHAIN — *2021-2022*

- Project funded by Horizon Europe

Yong Shi — *INRAE, France*

Project SURE-Farm — *2019-2020*

- Project funded by H2020 and convergence institute CLAND
- Co-supervised with Dr. Francesco Accatino, INRAE

Ilaria Brunetti — *INRAE, France*

Développement et transfert d'un outil d'aide à la décision appliqué à la maturation des baies de raisins rouge et blanc — *2018-2019*

- Project funded by the Compte d'affectation spéciale développement agricole et rural (CASDAR)
- Co-supervised with Dr. Nathalie Méjean-Perrot, INRAE and Daniel Pique, INRAE
- Joint publications: [122]

Teaching

Evolution Artificielle (Artificial Evolution) — *ENSTA ParisTech, Saclay, France*

Co-Organizer — *2018-2021*

- Introduction to evolutionary computation
- Class for undergraduate students (M1), 20-30 participants
- 18 hours

Nature-inspired search and optimisation heuristics — *Summer School, Coimbra, Portugal*

Invited Teacher — *Jul. 2019*

- Introduction to evolutionary machine learning
- Class for post-graduate students, 20-30 participants
- Invited by the networking project COST Action CA15140 ImAppNIO
- 6 hours

UC4, Quand la nature inspire les ingénieurs: algorithmes évolutionnaires, logique floue, neurones artificiels — *AgroParisTech, Paris, France*

Teacher Assistant — *2013-2016*

- Introduction to machine learning and optimization techniques
- Class for undergraduate students (M1), 20-30 participants
- 18 hours

Algoritmi e Programmazione Avanzata (Algorithms and Advanced Programming) — *Politecnico di Torino, Italy*

Teacher Assistant — *2009-2011*

- Introduction to advanced data structures in programming: binary trees, hash tables, ...
- Class for undergraduate students, 30-50 participants
- 24 hours

Fondamenti di Informatica (Fundamentals of Computer Science) — *Politecnico di Torino, Italy*

Teacher Assistant — *2008-2009*

- Introduction to basic concepts of programming and flow control
- Class for undergraduate students, 50-100 participants
- 24 hours

Participation to Start-Ups

2019	**Advisory board member,** Bactell, ML for prediction of antibiotics performance	*Wisconsin, US*
2016	**Co-founder,** Ominee, ML for employer-oriented online services	*Torino, Italy*

Press and Outreach

2021	**News,** on the work in cooperation with University of Utrecht: [Link]	*EConsulta, Mexico*
2021	**News,** on the work in cooperation with University of Utrecht: [Link]	*EDiary, India*
2021	**News,** on the work in cooperation with University of Utrecht: [Link]	*NRC, NL*
2021	**News,** on the work in cooperation with University of Utrecht: [Link]	*U.U. Website, NL*
2021	**News,** on the work in cooperation with University of Utrecht: [Link]	*EngineeringNet, BE*
2019	**News,** on the work in cooperation with Univ. of Granada and Univ. of Cadiz: [Link]	*TecnoXplora*
2018	**Interview,** by Bosnian TV Channel TVSA, for a meeting of the FoodMC project: [YouTube Video]	*TVSA, BH*
2014	**Divulgation article,** written with Dr. Lorenzo Menichetti, SWU, Uppsala, Sweden: [Link]	*Pedometron*

Publications in International Peer-reviewed Journals (36)

[1] Otilia Carvalho, Maria N. Charalambides, Ilija Djekić, Christos Athanassiou, Serafim Bakalis, Jose Benedito, Aurelien Briffaz, Cristina Castañé, Guy Della Valle, Isabel Maria Nunes de Sousa, Ferruh Erdogdu, Aberham Hailu Feyissa, Nickolas G. Kavallieratos, Alexandros Koulouris, Milica Pojić, Anabela Raymundo, Jordi Riudavets, Fabrizio Sarghini, Pasquale Trematerra, and Alberto Tonda. “Modelling Processes and Products in the Cereal Chain”. In: *Foods* 10.1 (Jan. 2021), p. 82.

[2] Alejandro Lopez-Rincon, Alberto Tonda, Lucero Mendoza-Maldonado, Daphne G. J. C. Mulders, Richard Molenkamp, Carmina A. Perez-Romero, Eric Claassen, Johan Garssen, and Aletta D. Kraneveld. “Classification and Specific Primer Design for Accurate Detection of SARS-CoV-2 Using Deep Learning”. In: *Scientific Reports* 11.1 (Jan. 2021).

[3] Giovanni Iacca, Kateryna Konotopska, Doina Bucur, and Alberto Tonda. “An Evolutionary Framework for Maximizing Influence Propagation in Social Networks”. In: *Software Impacts* (July 2021), p. 100107.

[4] Pablo García-Sánchez, Alberto Tonda, Antonio J. Fernández-Leiva, and Carlos Cotta. “Optimizing HearthStone Agents Using an Evolutionary Algorithm”. In: *Knowledge-Based Systems* 188 (Jan. 2020), p. 105032.

[5] Hannes Deponte, Alberto Tonda, Nathalie Gottschalk, Laurent Bouvier, Guillaume Delaplace, Wolfgang Augustin, and Stephan Scholl. “Two Complementary Methods for the Computational Modeling of Cleaning Processes in Food Industry”. In: *Computers & Chemical Engineering* 135 (Apr. 2020), p. 106733.

[6] Mourad Hannachi, Véronique Souchère, Samuel Buèche, Marc Dupayage, Bastien Boquet, J.-P. Pardoux, Elsa Berthet, Anne Deredec, Alberto Tonda, P. Pluquet, J.P. Leroy, Aurélie Albaut, Jacques Blarel, Jérôme Lecuyer, Claude Gazet, Muriel Leuba, Élodie Gagliardi, Karine Leleu, Philippe Leclercq, Émilien Quilliot, Jérôme Pernel, Marc Declemy, Bruno Chauvel, and Anne-Sophie Walker. “Vers une Action Collective à l’Échelle des Paysages”. In: *Phytoma. La Défense des Végétaux* 733 (Apr. 2020).

[7] Alejandro Lopez-Rincon, Lucero Mendoza-Maldonado, Marlet Martinez-Archundia, Alexander Schönhuth, Aletta D. Kraneveld, Johan Garssen, and Alberto Tonda. “Machine Learning-Based Ensemble Recursive Feature Selection of Circulating miRNAs for Cancer Tumor Classification”. In: *Cancers* 12.7 (July 2020), p. 1785.

[8] R. Thomopoulos, C. Baudrit, N. Boukhelifa, R. Boutrou, P. Buche, E. Guichard, V. Guillard, E. Lutton, P. S. Mirade, A. Ndiaye, N. Perrot, F. Taillandier, T. Thomas-Danguin, and A. Tonda. “Multi-Criteria Reverse Engineering for Food: Genesis and Ongoing Advances”. In: *Food Engineering Reviews* 11.1 (Jan. 2019), pp. 44–60.

[9] Francesco Accatino, Alberto Tonda, Camille Dross, François Léger, and Muriel Tichit. “Trade-offs and Synergies Between Livestock Production and Other Ecosystem Services”. In: *Agricultural Systems* 168 (Jan. 2019), pp. 58–72.

[10] Ilija Djekic, Milica Pojić, Alberto Tonda, Predrag Putnik, Danijela Bursać Kovačević, Anet Režek-Jambrak, and Igor Tomasevic. “Scientific Challenges in Performing Life-Cycle Assessment in the Food Supply Chain”. In: *Foods* 8.8 (Aug. 2019), p. 301.

[11] Geneviève Gésan-Guiziou, Aude Alaphilippe, Mathieu Andro, Joël Aubin, Christian Bockstaller, Raphaëlle Botreau, Patrice Buche, Catherine Collet, Nicole Darmon, Monique Delabuis, Agnès Girard, Régis Grateau, Kamal Kansou, Vincent Martinet, Jeanne-Marie Membré, Régis Sabbadin, Louis-Georges Soler, Marie Thiollet-Scholtus, Alberto Tonda, and Hayo Van-Der-Werf. “Annotation Data About Multi Criteria Assessment Methods Used in the Agri-food Research: The French National Institute for Agricultural Research (INRA) Experience”. In: *Data in Brief* 25 (Aug. 2019), p. 104204.

[12] Alejandro Lopez-Rincon, Marlet Martinez-Archundia, Gustavo U. Martinez-Ruiz, Alexander Schoenhuth, and Alberto Tonda. “Automatic Discovery of 100-miRNA Signature for Cancer Classification Using Ensemble Feature Selection”. In: *BMC Bioinformatics* 20.1 (Sept. 2019).

[13] Alberto Tonda. “Inspyred: Bio-inspired algorithms in Python”. In: *Genetic Programming and Evolvable Machines* 21.1-2 (Nov. 2019), pp. 269–272.

[14] Ilija Djekic, Alen Mujčinović, Aleksandra Nikolić, Anet Režek Jambrak, Photis Papademas, Aberham Hailu Feyissa, Kamal Kansou, Rallou Thomopoulos, Heiko Briesen, Nickolas G. Kavallieratos, Christos G. Athanassiou, Cristina L.M. Silva, Alexandrina Sirbu, Alexandru Mihnea Moisescu, Igor Tomasevic, Urška Vrabič Brodnjak, Maria Charalambides, and Alberto Tonda. “Cross-European Initial Survey on the Use of Mathematical Models in Food Industry”. In: *Journal of Food Engineering* 261 (Nov. 2019), pp. 109–116.

[15] Yingying Gu, Laurent Bouvier, Alberto Tonda, and Guillaume Delaplace. “A Mathematical Model for the Prediction of the Whey Protein Fouling Mass in a Pilot Scale Plate Heat Exchanger”. In: *Food Control* 106 (Dec. 2019), p. 106729.

[16] Andrea Atzeni, Fernando Diaz, Andrea Marcelli, Antonio Sanchez, Giovanni Squillero, and Alberto Tonda. "Countering Android Malware: A Scalable Semi-Supervised Approach for Family-Signature Generation". In: *IEEE Access* 6 (2018), pp. 59540–59556.

[17] Ilija Djekic, Neus Sanjuán, Gabriela Clemente, Anet Režek Jambrak, Aleksandra Djukić-Vuković, Urška Vrabič Brodnjak, Eugen Pop, Rallou Thomopoulos, and Alberto Tonda. "Review on environmental models in the food chain - Current status and future perspectives". In: *Journal of Cleaner Production* 176 (Mar. 2018), pp. 1012–1025.

[18] M. Barnabé, N. Blanc, T. Chabin, J.-Y. Delenne, A. Duri, X. Frank, V. Hugouvieux, E. Lutton, F. Mabille, S. Nezamabadi, N. Perrot, F. Radjai, T. Ruiz, and A. Tonda. "Multiscale modeling for bioresources and bioproducts". In: *Innovative Food Science & Emerging Technologies* 46 (Apr. 2018), pp. 41–53.

[19] Alejandro Lopez-Rincon, Alberto Tonda, Mohamed Elati, Olivier Schwander, Benjamin Piwowarski, and Patrick Gallinari. "Evolutionary optimization of convolutional neural networks for cancer miRNA biomarkers classification". In: *Applied Soft Computing* 65 (Apr. 2018), pp. 91–100.

[20] Peter Karpov, Giovanni Squillero, and Alberto Tonda. "VALIS: an Evolutionary Classification Algorithm". In: *Genetic Programming and Evolvable Machines* 19.3 (Aug. 2018), pp. 453–471.

[21] Pablo García-Sánchez, Alberto Tonda, Antonio M. Mora, Giovanni Squillero, and Juan Julián Merelo. "Automated Playtesting in Collectible Card Games Using Evolutionary Algorithms: A Case Study in HearthStone". In: *Knowledge-Based Systems* 153 (Aug. 2018), pp. 133–146.

[22] Alberto Tonda, Anita Grosvenor, Stefan Clerens, and Steven Le Feunteun. "In silico modeling of protein hydrolysis by endoproteases: a case study on pepsin digestion of bovine lactoferrin". In: *Food & Function* 8.12 (2017), pp. 4404–4413.

[23] G. Squillero and A. Tonda. "(Over-)Realism in evolutionary computation: Commentary on "On the Mapping of Genotype to Phenotype in Evolutionary Algorithms" by Peter A. Whigham, Grant Dick, and James Maclaurin". In: *Genetic Programming and Evolvable Machines* 18.3 (Feb. 2017), pp. 391–393.

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[25] Nathalie Perrot, Hugo De Vries, Evelyne Lutton, Harald G.J. van Mil, Mechthild Donner, Alberto Tonda, Sophie Martin, Isabelle Alvarez, Paul Bourgine, Erik van der Linden, and Monique A.V. Axelos. "Some remarks on computational approaches towards sustainable complex agri-food systems". In: *Trends in Food Science & Technology* 48 (Feb. 2016), pp. 88–101.

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[28] Marco Gaudesi, Elio Piccolo, Giovanni Squillero, and Alberto Tonda. "Exploiting Evolutionary Modeling to Prevail in Iterated Prisoner's Dilemma Tournaments". In: *IEEE Transactions on Computational Intelligence and AI in Games* 8.3 (Sept. 2016), pp. 288–300.

[29] Igor Deplano, Giovanni Squillero, and Alberto Tonda. "Anatomy of a portfolio optimizer under a limited budget constraint". In: *Evolutionary Intelligence* 9.4 (Sept. 2016), pp. 125–136.

[30] Doina Bucur, Giovanni Iacca, Giovanni Squillero, and Alberto Tonda. "The impact of topology on energy consumption for collection tree protocols: An experimental assessment through evolutionary computation". In: *Applied Soft Computing* 16 (Mar. 2014), pp. 210–222.

[31] Evelyne Lutton, Alberto Tonda, Sébastien Gaucel, Alain Riaublanc, and Nathalie Perrot. "Food model exploration through evolutionary optimisation coupled with visualisation: Application to the prediction of a milk gel structure". In: *Innovative Food Science & Emerging Technologies* 25 (Oct. 2014), pp. 67–77.

[32] M. Grosso, W. J. Perez Holguin, E. Sanchez, M. Sonza Reorda, A. Tonda, and J. Velasco Medina. "Software-Based Testing for System Peripherals". In: *Journal of Electronic Testing* 28.2 (Feb. 2012), pp. 189–200.

[33] Alberto Tonda, Evelyne Lutton, and Giovanni Squillero. "A benchmark for cooperative coevolution". In: *Memetic Computing* 4.4 (Nov. 2012), pp. 263–277.

[34] Michelangelo Grosso, Wilson Javier Perez Holguin, Danilo Ravotto, Ernesto Sanchez, Matteo Sonza Reorda, Alberto Tonda, and Jaime Velasco Medina. “Functional Verification of DMA Controllers”. In: *Journal of Electronic Testing* 27.4 (Apr. 2011), pp. 505–516.
[35] S. Di Carlo, M. Falasconi, E. Sanchez, A. Scionti, G. Squillero, and A. Tonda. “Increasing pattern recognition accuracy for chemical sensing by evolutionary based drift compensation”. In: *Pattern Recognition Letters* 32.13 (Oct. 2011), pp. 1594–1603.
[36] Stefano Gandini, Walter Ruzzarin, Ernesto Sanchez, Giovanni Squillero, and Alberto Tonda. “A Framework for Automated Detection of Power-related Software Errors in Industrial Verification Processes”. In: *Journal of Electronic Testing* 26.6 (Nov. 2010), pp. 689–697.

Publications in International Peer-reviewed Conferences (72)

Several conferences managed by Springer (e.g. EvoSTAR, PPSN, EA) publish their peer-reviewed proceedings as book chapters, in series like Lecture Notes in Computer Science. Such publications are reported here, separately from those specifically redacted as book chapters, presented in the following sections.

[37] Alejandro Lopez-Rincon, Daphne S. Roozendaal, Hilde M. Spierenburg, Asta L. Holm, Renee Metcalf, Paula Perez-Pardo, Aletta D. Kraneveld, and Alberto Tonda. “Modelling Asthma Patients’ Responsiveness to Treatment Using Feature Selection and Evolutionary Computation”. In: *Applications of Evolutionary Computation*. Springer International Publishing, 2021, pp. 359–372.
[38] Eliana Giovannitti, Sayyidshahab Nabavi, Giovanni Squillero, and Alberto Tonda. “Exploiting Artificial Swarms for the Virtual Measurement of Backlash in Industrial Robots”. In: *2021 IEEE Congress on Evolutionary Computation (CEC)*. IEEE, June 2021.
[39] Alejandro Lopez Rincon, Carmina A. Perez Romero, Lucero Mendoza Maldonado, Eric Claassen, Johan Garssen, Aletta D. Kraneveld, and Alberto Tonda. “Design of specific primer sets for SARS-CoV-2 variants using evolutionary algorithms”. In: *Proceedings of the Genetic and Evolutionary Computation Conference*. ACM, June 2021.
[40] Pietro Barbiero, Giovanni Squillero, and Alberto Tonda. “Predictable Features Elimination: An Unsupervised Approach to Feature Selection”. In: *Proceedings of the 2021 Conference on Machine Learning, Optimization, and Data Science (LOD)*. Springer, Oct. 2021.
[41] Pietro Barbiero, Gabriele Ciravegna, Giansalvo Cirrincione, Alberto Tonda, and Giovanni Squillero. “Generating Neural Archetypes to Instruct Fast and Interpretable Decisions”. In: *Advances in Intelligent Systems and Computing*. Springer International Publishing, 2020, pp. 45–52.
[42] Pietro Barbiero and Alberto Tonda. “Making Sense of Economics Datasets with Evolutionary Coresets”. In: *Advances in Intelligent Systems and Computing*. Springer International Publishing, 2020, pp. 162–170.
[43] Eliana Giovannitti, Giovanni Squillero, and Alberto Tonda. “Virtual Measurement of the Backlash Gap in Industrial Manipulators”. In: *Communications in Computer and Information Science*. Springer International Publishing, 2020, pp. 189–200.
[44] Pietro Barbiero, Evelyne Lutton, Giovanni Squillero, and Alberto Tonda. “A Novel Outlook on Feature Selection as a Multi-objective Problem”. In: *Lecture Notes in Computer Science*. Springer International Publishing, 2020, pp. 68–81.
[45] Ilija Djekic, Jan Van Impe, and Alberto Tonda. “Environmental Modelling in the Food Supply Chain - Future Perspectives”. In: *Proceedings of FoodSIM 2020, 11th bi-annual International Conference on Modelling and Simulation in Food Engineering*. 2020.
[46] Gabriele Ciravegna, Pietro Barbiero, Giansalvo Cirrincione, Giovanni Squillero, and Alberto Tonda. “Discovering Hierarchical Neural Archetype Sets”. In: *Progresses in Artificial Intelligence and Neural Systems*. Springer Singapore, July 2020, pp. 255–267.
[47] Alejandro Lopez Rincon, Aletta D. Kraneveld, and Alberto Tonda. “Batch correction of genomic data in chronic fatigue syndrome using CMA-ES”. In: *Proceedings of the 2020 Genetic and Evolutionary Computation Conference Companion*. ACM, July 2020.
[48] Giovanni Squillero and Alberto Tonda. “Evolutionary algorithms and machine learning”. In: *Proceedings of the 2020 Genetic and Evolutionary Computation Conference Companion*. ACM, July 2020.

[49] Pietro Barbiero and Alberto Tonda. “Fundamental Flowers: Evolutionary Discovery of Coresets for Classification”. In: *Applications of Evolutionary Computation*. Springer International Publishing, 2019, pp. 550–564.
[50] Pietro Barbiero, Giovanni Squillero, and Alberto Tonda. “Beyond coreset discovery”. In: *Proceedings of the Genetic and Evolutionary Computation Conference Companion*. ACM, July 2019.
[51] Pietro Barbiero, Giovanni Squillero, and Alberto Tonda. “Evolutionary discovery of coresets for classification”. In: *Proceedings of the Genetic and Evolutionary Computation Conference Companion*. ACM, July 2019.
[52] Pietro Barbiero, Andrea Bertotti, Gabriele Ciravegna, Giansalvo Cirrincione, Elio Piccolo, and Alberto Tonda. “Understanding Cancer Phenomenon at Gene Expression Level by using a Shallow Neural Network Chain”. In: *Neural Approaches to Dynamics of Signal Exchanges*. Springer Singapore, Sept. 2019, pp. 281–290.
[53] Thomas Chabin, Marc Barnabé, Nadia Boukhelifa, Fernanda Fonseca, Alberto Tonda, Hélène Velly, Benjamin Lemaitre, Nathalie Perrot, and Evelyne Lutton. “LIDeOGraM: An Interactive Evolutionary Modelling Tool”. In: *Lecture Notes in Computer Science*. Springer International Publishing, 2018, pp. 189–201.
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[78] Jany Belluz, Marco Gaudesi, Giovanni Squillero, and Alberto Tonda. “Operator Selection using Improved Dynamic Multi-Armed Bandit”. In: *Proceedings of the 2015 on Genetic and Evolutionary Computation Conference - GECCO ’15*. ACM Press, 2015.

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[81] Alberto Tonda, Andre Spritzer, and Evelyne Lutton. “Balancing User Interaction and Control in BNSL”. In: *Lecture Notes in Computer Science*. Springer International Publishing, 2014, pp. 211–223.
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