João Tiago Aparício

Website: https://jtaca.github.io | Github: jtaca | LinkedIn: jtaca | YouTube: jtaca | Skype: joao4aparicio

KEYWORDS

Areas of Expertise:
Data Science
Network Science
Computational Social Science
Urban Dynamics
Virtual Robotics
Gamification
Programming Learning

Last Google Scholar alt-metrics (2021/12/13):
11 conference papers, 1 journal paper
h-index:5; 70 citations.

Development:

Python, JAVA, C & C++
SQL, NoSQL(MongoDB)
HTML & CSS JavaScript
UML & SysML, BPMN, ArchiMate
CAD, LaTeX, Assembly (MIPS, 8086)
Git, SDN, STP, ICMP, ARP, DNS

COURSEWORK

GRADUATE
Data Science
Natural Language
Autonomous Agents & Multi-Agent Sys.
Planning, Learning & Int. Decision-Making
Machine Learning
Network Science
Information Systems Management
Information Visualization
3d Programming

UNDERGRADUATE
Software Engineering I & II
Information Processing
Algorithms & Data Structures
Parallel & Distributed Programming
Object Oriented Programming
Signal Theory
Network Programming
Digital Networks I, II & III
Management & Enterprise Accounting

RESEARCH INTEREST

I am interested in studying the applications of machine learning, game theory, and network science in the context of mobility, security, and sustainability.

EXPERIENCE

INESC-ID & LNEC | Research Scholarship
Sep. 2020 - Present | Lisbon, Portugal
- Researching on multimodal urban data analysis for improving public transportation in face of the demand change. (**ILU project**)

INSTITUTO SUPERIOR TÉCNICO | Teaching Assistant
Feb. 2020 - Present | Lisbon, Portugal

- Spring 2020 - 2022: Data Administration in Information Systems;
- Fall 2021: Network Science; Systems Analysis and Modeling.
- Fall 2020: Information Processing and retrieval;

INSTITUTO DE TELECOMUNICAÇÕES | Undergraduate Research Assistant
Nov. 2018 - Apr. 2019 | Lisbon, Portugal
- Worked on web scrapping and text extraction algorithms.

ACM STUDENT CHAPTER AT ISCTE-IUL | Chair
Dec. 2016 - Feb. 2019 | Lisbon, Portugal
- Organized small events and open lectures, managed teams and participated in coding competitions.
- Gave 5 different talks in Robotics.

IEEE STUDENT BRANCH ISCTE-IUL | Chair of the Robotics and Automation Society
Oct. 2016 - Jul. 2019 | Lisbon, Portugal
- Built robots for 2 competitions and managed 2 teams.

CODERDOJO-LX | Mentor
Apr. 2015 - Oct. 2017 | Lisbon, Portugal
- Taught the fundamentals of programming and electronics for project-based learning to children between 6 and 17 years old.

EDUCATION

MSC. IN INFORMATION SYS. AND COMPUTER ENGINEERING
Instituto Superior Técnico, University of Lisbon
Nov. 2021 | Lisbon, Portugal
Advisor: Professor Rui Henriques, PhD and Dr. Elisabete Arsenio, PhD;
Dissertation: Modeling and assessing resilience in multimodal transport systems; Focus on data and network science.
Overal GPA: 18/20; Dissertation Grade: 19/20

BSC. IN COMPUTER ENGINEERING
School of Technology and Architecture at Instituto Universitario de Lisboa (ISCTE-IUL)
Jul. 2019 | Lisbon, Portugal
Was students delegate for Computer Engineering degree;
GPA: 17/20.

DEEP LEARNING FOR AI AND COMPUTER VISION

MASSACHUSETTS INSTITUTE OF TECHNOLOGY

Aug. 2019 | Cambridge, MA

Was awarded a scholarship. Summer course to expand knowledge and discuss perspectives with computer vision researchers. Developed expertise in CV tasks such as object recognition, scene recognitionănd human motion categorization. Lectured by Professors Antonio Torralba and Phillip Isola

DESIGNING EFFICIENT DEEP LEARNING SYSTEMS

MASSACHUSETTS INSTITUTE OF TECHNOLOGY

Jul. 2018 | Cambridge, MA

Summer course focused on understanding the high and low level considerations, hardware and softwares whise when implementing a DL systems and how to optimize them. Lectured by Professor Vivienne Sze

EPIGENETICS: FOUNDATIONS AND HUMAN HEALTH

INSTITUTO SUPERIOR TÉCNICO UNIVERSITY OF LISBON

Nov. 2020 and Mar. 2021 | Online

INTERNATIONAL SCHOOL ON MODERN PHYSICS AND RESEARCH "THE QUANTUM LEGACY"

NATIONAL LABORATORY OF FRASCATI (LNF) OF THE ISTITUTO NAZIONALE DI FISICA NUCLEARE (INFN)

Feb. 2016 | Frascati (Rome), Italy

Lectures on Modern Physics and its applications in Society.
More at: http://edu.lnf.infn.it/inspyre-2016/

YA-FIRST STEP, ENTREPRENEURSHIP PROGRAM

ISCTE-IUL BUSINESS SCHOOL

Jul. 2012 | Lisbon, Portugal

Learned basic concepts of finance, marketing and Investment analysis. Presented an implementation of a bike sharing service in Lisbon.

OTHER EDUCATION

Introduction to Python with Artificial Intelligence Applications at NOVA UNIVERSITY, INFORMATION MANAGEMENT SCHOOL (NOVA IMS) JUL. 2017 | LISBON, PORTUGAL | GPA: 20/20

Internship in design and rapid prototyping of components using 3d drawing tools at INSTITUTO SUPERIOR TECNICO, UNIVERSITY OF LISBON |JUL. 2016 | LISBON, PORTUGAL

Radio School at UNIVERSITY OF MINHO | JUL. 2012 | BRAGA, PORTUGAL

AWARDS

2021	School	IST Diploma of Academic Merit 2019-2020
2020	National	EDP TOP 3 - Local	EDP University Challenge Portugal 2020
2020	School	ISCTE Academic Merit Diploma
2019	School	ISTA TOP Talent Award (Academic merit award) 2018-2019
2018	School	ISTA TOP Talent Award (Academic merit award) 2017-2018
2017	School	ISTA TOP Talent Award (Academic merit award) 2016-2017
2017	School	ISCTE-IUL Research Week Finalist
2016	National	4th Place, National Robotics Competition: Robocup Rescue Maze (Portugal)
2014	Scholarship	2nd Place, FCUL Rally Pro (Programming Competition)
2014	National	3rd Place, National Robotics Competition: Robocup Rescue (Portugal)
2013	National	3rd Place, National Robotics Competition: Robocup Rescue (Portugal)
2012	International	Best Presentation Award: Worldwide Robotics Competition: Robocup Junior
2012	National	3rd Place, National Robotics Competition: Robocup Rescue (Portugal)

MEMBERSHIP IN PROFESSIONAL SOCIETIES

- Association for Computing Machinery (ACM)

- Institute of Electrical and Electronics Engineers (IEEE)

PUBLICATIONS

JOURNAL

1. Aparicio, J. T., Arsenio, E., & Henriques, R. (2021). Understanding the Impacts of the COVID-19 Pandemic on Public Transportation Travel Patterns in the City of Lisbon. **Sustainability**, 13(15), 8342. (Impact Factor: 3.251, Q1)

CONFERENCE

1. Aparicio, J. T., Arsenio, E., & Henriques, R. (2021). Assessing Robustness in Multimodal Transportation Systems: A case study in Lisbon. In European Transport Conference 2021. (Rank B)

2. Costa, C., Aparicio, M., & Aparicio, J. (2021, October). Sentiment Analysis of Portuguese Political Parties Communication. In The 39th **ACM** International Conference on Design of Communication (pp. 63-69). (Rank B1)

3. Aparicio, J. T., Trinca, M., Castro, D., Henriques, R. (2021). Vehicle Smart Grid Allocation using Multi-Agent Systems sensitive to Irrational Behavior and Unstable Power Supply. WAIM 2021 - 3rd Workshop on Artificial Intelligence and Management. 2021 16th Iberian Conference on Information Systems and Technologies (CISTI), 16. **IEEE**

4. Aparicio, J. T., Sequeira, J. S., Carlos, C. J. (2021). Emotion analysis of Portuguese Political Parties Communication over the covid-19 Pandemic. WAIM 2021 - 3rd Workshop on Artificial Intelligence and Management. 2021 16th Iberian Conference on Information Systems and Technologies (CISTI), 16. **IEEE**

5. Costa, C. J., Aparicio, J. T. (2021). A Methodology to Boost Data Science in the Context of COVID-19. In Advances in Parallel Distributed Processing, and Applications (pp. 65-75). **Springer**, Cham. (in Book Chapter)

6. Costa, C. J. Aparicio, J. T. (2020). POST-DS: A methodology to boost data science. WAIM 2020 - 2nd Workshop on Artificial Intelligence and Management. 2020 15th Iberian Conference on Information Systems and Technologies (CISTI), 16. **IEEE**

7. Aparicio, Joao Tiago, Pereira, S., Aparicio, M., Costa, C. J. (2019). Learning Programming Using Educational Robotics. 2019 14th Iberian Conference on Information Systems and Technologies (CISTI), 16. **IEEE**

8. Aparicio, S., Aparicio, J. T., Costa, C. J. (2019). Data Science and AI: Trends Analysis. 2019 14th Iberian Conference on Information Systems and Technologies (CISTI), 16. **IEEE**

9. Aparicio, Joao Tiago, Aparicio, M., Costa, C. J. (2018). A Virtual Robot to support Programming Learning. ISR 2018 - 50th International Symposium on Robotics, 139142. **IEEE** (Rank A)

10. Aparicio, Joao Tiago, Costa, C. J. (2018). A virtual robot solution to support programming learning an open source approach. 2018 13th Iberian Conference on Information Systems and Technologies (CISTI), 16. **IEEE**

11. Costa, C. J., Aparicio, M., Aparicio, S., Aparicio, J. T. (2017). Gamification usage ecology. Proceedings of the 35th ACM International Conference on the Design of Communication, 19. **ACM** (Rank B1)

12. Pereira, R., Costa, C. J., Aparicio, J. T. (2017). Gamification to support programming learning. 2017 12th Iberian Conference on Information Systems and Technologies (CISTI), 16. **IEEE**

TALKS

1. 2020 - Master Lecture: Creativity in Robotics: Lecture for a master students in the context of computational creativity @ ISCTE-IUL ISTA

2. 2019 - Master Lecture: Open Source Robotics as booster to Creativity: Showcased practical applications of Robotics as a mean to encourage the making of original projects @ ISCTE-IUL ISTA

3. 2018 - Master Lecture: Computing Creativity Robotics: Introduced robotics in the context of a Creative Computing class, with several examples of Open Source hardware solutions @ ISCTE-IUL ISTA

4. 2017 - Master Lecture: Logistics Robotics: Introduced robotics in the context of logistics to the Information Systems and ERP course students at the ISCTE Business School @ ISCTE-IUL IBS

5. 2017 - Introduction to Robotics using Arduino: Workshop about the use of Arduino, illustrating computer programming concepts @ School of Technology at IPS

6. 2017 - SmartTalk: Robotics: Presented some elements of robotics in context of education and demonstration of a prototype for a firefighting robot competition. @ ISLA Santarem