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## Joana Martinho Costa

### Professora Associada

ISTAR-Iscte - Information Sciences, Technologies and Architecture Research Centre  
Department of Social and Enterprise Sciences (ETDA)



### Contacts

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### Curriculum

Joana Martinho Costa has been the Dean of the School of Applied Digital Technologies of Iscte (Iscte-Sintra) since July 2025. She is an Associate Professor and a researcher in the field of digital technologies in education. She is the Principal Investigator of the project BRIDGE – Breaking Inequalities in Digital Education.

### Research Interests

Technology Enhanced Learning (TEL)
Computer Science Education
Artificial Intelligence in Education
Programming learning
Computer Aided Assessment
Learning environments
Meta-analysis

## Academic Qualifications

University/Institution	Type	Degree	Period
Harvard Business Publishing	Other type of qualification	Inovação no Ensino	2024
ISCTE-Instituto Universitario de Lisboa	Other type of qualification	Ensino à Distância	2022
Universidade de Lisboa	PhD	Educação, especialidade Tecnologias de Informação e Comunicação na Educação	2019
Conselho Científico-Pedagógico de Formação Contínua	Other type of qualification	Certificação de Competências Pedagógicas	2015
Universidade de Lisboa	M.Sc.	Ensino de Informática	2012
Universidade Nova de Lisboa	Licenciante	Engenharia Informática	2010
Centro de Formação de Associação de Escolas	Other type of qualification	Certificação de Competências Digitais	2010

## Teaching Activities

Teaching Year	Sem.	Course Name	Degree(s)	Coord
2025/2026	2º	Game Design		Yes
2025/2026	2º	Curriculum Development		Yes
2025/2026	1º	Game Design		Yes
2025/2026	1º	Dynamic Digital Resources		Yes
2025/2026	1º	Communication and Multimedia Learning		Yes
2025/2026	1º	Artificial Intelligence in the Teaching-Learning Process		Yes
2025/2026	1º	Virtual and Augmented Reality in the Classroom		Yes
2024/2025	2º	Algorithms and Data Structures		Yes
2024/2025	2º	Teaching and Learning Methodologies	Bachelor Degree in Digital Educational Technologies;	Yes

2024/2025	2°	Virtual Learning Environments		Yes
2024/2025	2°	Curriculum Development		Yes
2024/2025	2°	Static Digital Resources		Yes
2024/2025	2°	Applied Project in Educational Digital Technologies II	Bachelor Degree in Digital Educational Technologies;	Yes
2024/2025	2°	Project Work in Digital Transformation in Teaching and Learning	Master Degree in Digital Transformation in Teaching and Learning;	Yes
2024/2025	1°	Inclusion and Aecessibility		Yes
2024/2025	1°	Dynamic Digital Resources		Yes
2024/2025	1°	Training Management		Yes
2024/2025	1°	Applied Project in Educational Digital Technologies I	Bachelor Degree in Digital Educational Technologies;	Yes
2024/2025	1°	Multimedia Learning		Yes
2024/2025	1°	Artificial Intelligence in the Teaching-Learning Process	Post Graduation Program in Digital Transformation in Teaching and Learning;	Yes
2023/2024	2°	Teaching and Learning Methodologies	Bachelor Degree in Digital Educational Technologies;	Yes
2023/2024	2°	Curriculum Development		Yes
2023/2024	2°	Dynamic Digital Resources		Yes
2023/2024	2°	Static Digital Resources		Yes
2023/2024	1°	Programming Fundamentals	Bachelor Degree in Digital Technologies and Information Security; Bachelor Degree in Digital Educational Technologies;	Yes
2023/2024	1°	Dynamic Digital Resources		Yes
2023/2024	1°	Static Digital Resources		Yes
2023/2024	1°	Big Data and Artificial Intelligence in Public Policies	Post Graduation Program in Digitalization in Public Administration;	No
2022/2023	2°	Algorithms and Data Structures	Bachelor Degree in Digital Technologies and Health; Bachelor Degree in Software and Applications Development;	Yes
2022/2023	2°	Programming Fundamentals		Yes

2022/2023	2°	Design Thinking and Innovation Strategies		No
2022/2023	2°	Teaching and Learning Methodologies		Yes
2022/2023	1°	Multimedia Communication		Yes
2022/2023	1°	Programming Fundamentals	Bachelor Degree in Digital Educational Technologies; Bachelor Degree in Software and Applications Development;	Yes
2022/2023	1°	Design Thinking and Innovation Strategies		No
2021/2022	2°	Algorithms and Data Structures		No
2021/2022	2°	Distributed Information Systems Integration Project	Bachelor Degree in Computer Science and Business Management (PL); Bachelor Degree in Computer Engineering (PL);	No
2021/2022	2°	Design Thinking and Innovation Strategies		No
2021/2022	1°	Fundamentals of Database Management	Bachelor Degree in Data Science;	No
2021/2022	1°	Big Data Storage	Bachelor Degree in Data Science;	No
2021/2022	1°	Databases	Bachelor Degree in Computer Science and Business Management;	No
2021/2022	1°	Design Thinking and Innovation Strategies		No
2020/2021	2°	Algorithms and Data Structures	Bachelor Degree in Computer Engineering; Bachelor Degree in Computer Science and Business Management; Bachelor Degree in Telecommunications and Computer Engineering;	No
2020/2021	2°	Distributed Information Systems Integration Project	Bachelor Degree in Computer Science and Business Management (PL); Bachelor Degree in Computer Engineering (PL); Bachelor Degree in Computer Science and Business Management;	No
2020/2021	1°	Fundamentals of Database Management	Bachelor Degree in Data Science (PL);	No
2020/2021	1°	Databases	Bachelor Degree in Computer Science and Business Management;	No
2019/2020	2°	Algorithms and Data Structures		No
2019/2020	1°	Database Fundamentals		No

## Supervisions

### • Ph.D. Thesis

#### - Ongoing

	Student Name	Title/Topic	Language	Status	Institution
1	Igor Emmanuel da Silva Carnáuba	Data Sharing and Education: Analysis Of Erasmus+ Projects Targeting LGBTQ+ Awareness in K-12 Schools (2016-2023)	English	Developing	Iscte
2	Paulo Jorge Mestre Vieira	Empowering Professors: Effective Formative Assessment through Decision Support Systems and Chatbots	English	Developing	Iscte

### • M.Sc. Dissertations

#### - Ongoing

	Student Name	Title/Topic	Language	Status	Institution
1	Sara Miriam Varandas dos Reis Caetano	Digital Transformation in Health Professionals Education	English	Developing	Iscte
2	Soumya Velpula	Gamification in Healthcare Professional Training: Bridging Engagement and learning	English	Developing	Iscte
3	Wael Mohd Ali Awad	From Theory to Practice: Applying Gamification in Clinical Staff Education	English	Developing	Iscte
4	Ana Cláudia Rodrigues Abalada Pereira	Generation Z: the impact of dating apps on emotional connections	--	Developing	Iscte
5	Tiago Filipe Patronilho Almeida	Impact of Cyber Range Tools in Cybersecurity Training	--	Developing	Iscte

#### - Concluded

	Student Name	Title/Topic	Language	Institution	Concluding Year
1	Vasco Emanuel Marques Fernandes	Reliable Search: Reliability of Information in Search Engines and the Perception of University Students	Portuguese	Iscte	2024
2	Pedro Miguel Pereira Borges Honrado	Times change, cities change. Smart mobility in Sintra	Portuguese	Iscte	2024
3	Rosiliana Soares Costa	The use of technologies on school management in schools in Cape verde and Portugal.	Portuguese	Iscte	2023

4	Jorge Alexandre da Silva Gonçalves	A Hint Generation System for Introductory Programming Exercises in Java	English	Iscte	2022
5	Alexandre Miguel Sancho Graça	Digital Transformation of Portuguese Enterprises in the Surf Industry	Portuguese	Iscte	2021
6	Carlota Patrícia Aveiro Rodrigues	Evaluation patterns during the phase of emergency remote teaching?	English	Iscte	2021
7	Francisco Manuel de Mendonça e Costa Pereira	The impact of the COVID-19 pandemic on European airlines' passenger satisfaction	English	Iscte	2021
8	Francisco Manuel de Mendonça e Costa Pereira	Análise de sentimentos na indústria da aviação	English	Iscte	2021
9	Guilherme dos Santos Pereira	Online sports betting in Portugal: analysis of variables that influence profit through data mining	Portuguese	Iscte	2020
10	Iotelma Marice Correia Marques	Student perceptions of teacher characteristics through rating sites	Portuguese	Iscte	2020
11	André Filipe Gonçalves Tenda	Support platform development to answer environmental companies necessities.	Portuguese	Iscte	2020
12	Sónia Patrícia Gusmão Araújo	The influence of the evaluation methods on student outcomes in higher degree	Portuguese	Iscte	2020

## • M.Sc. Final Projects

- Concluded

	Student Name	Title/Topic	Language	Institution	Concluding Year
1	Bento Manuel Martins Oliveira	Effects of teacher training on the pedagogical use of Artificial Intelligence in the classroom.	Portuguese	Iscte	2025

## Total Citations

Web of Science®	249
Scopus	255

## Publications

### • Scientific Journals

- Scientific journal paper

1	<p>Costa, J. M. (2023). Using game concepts to improve programming learning: a multi-level meta-analysis. <i>Computer Applications in Engineering Education</i>. 31 (4), 1098-1110</p> <ul style="list-style-type: none"> <li>- Times Cited Web of Science®: 12</li> <li>- Times Cited Scopus: 14</li> <li>- Times Cited Google Scholar: 32</li> </ul>
2	<p>Pereira, F., Costa, J. M., Ramos, R. F. &amp; Raimundo, A. (2023). The impact of the COVID-19 pandemic on airlines' passenger satisfaction. <i>Journal of Air Transport Management</i>. 112</p> <ul style="list-style-type: none"> <li>- Times Cited Web of Science®: 28</li> <li>- Times Cited Scopus: 22</li> <li>- Times Cited Google Scholar: 48</li> </ul>
3	<p>Costa, J. M., Miranda, G. &amp; Melo, M. (2022). The four-component instructional design model (4C/ID): A meta-analysis on use and effect. <i>Learning Environments Research</i>. 25 (2), 445-463</p> <ul style="list-style-type: none"> <li>- Times Cited Web of Science®: 43</li> <li>- Times Cited Scopus: 44</li> </ul>
4	<p>Tereso, D., Moro, S., Ramos, P., Calapez, T., Costa, J. M. &amp; Ratts, T. (2022). Using profanity and negative sentiments: An analysis of ultimate fighting championship fighters' trash talk on fans' social media engagement and viewership habits. <i>International Journal of Sport Communication</i>. 15 (2), 93-102</p> <ul style="list-style-type: none"> <li>- Times Cited Web of Science®: 4</li> <li>- Times Cited Scopus: 5</li> <li>- Times Cited Google Scholar: 11</li> </ul>
5	<p>Rodrigues, C., Costa, J. M. &amp; Moro, S. (2022). Assessment patterns during the Portuguese Emergency Remote Teaching. <i>Sustainability</i>. 14 (5)</p> <ul style="list-style-type: none"> <li>- Times Cited Web of Science®: 5</li> <li>- Times Cited Scopus: 4</li> </ul>
6	<p>Sousa, M. &amp; Costa, J. M. (2022). Discovering entrepreneurship competencies through problembased learning in higher education students. <i>Education Sciences</i>. 12 (3)</p> <ul style="list-style-type: none"> <li>- Times Cited Web of Science®: 27</li> <li>- Times Cited Scopus: 25</li> <li>- Times Cited Google Scholar: 62</li> </ul>
7	<p>Furtado, A., Ramos, R. F., Maia, B. &amp; Costa, J. M. (2022). Predictors of hotel clients' satisfaction in the Cape Verde Islands. <i>Sustainability</i>. 14 (5)</p> <ul style="list-style-type: none"> <li>- Times Cited Web of Science®: 17</li> <li>- Times Cited Scopus: 18</li> <li>- Times Cited Google Scholar: 28</li> </ul>
8	<p>Gil, P. D., Martins, S. C., Moro, S. &amp; Costa, J. M. (2021). A data-driven approach to predict first-year students' academic success in higher education institutions. <i>Education and Information Technologies</i>. 26 (2), 2165-2190</p> <ul style="list-style-type: none"> <li>- Times Cited Web of Science®: 40</li> <li>- Times Cited Scopus: 40</li> <li>- Times Cited Google Scholar: 87</li> </ul>
9	<p>Costa, J. M., Moro, S., Miranda, G. &amp; Arnold, T. (2020). Empowered learning through microworlds and teaching methods: a text mining and meta-analysis-based systematic review. <i>Research in Learning Technology</i>. 28</p> <ul style="list-style-type: none"> <li>- Times Cited Web of Science®: 4</li> <li>- Times Cited Scopus: 6</li> <li>- Times Cited Google Scholar: 13</li> </ul>
10	<p>Moro, S., Martins, A., Ramos, P., Esmerado, J., Costa, J. M. &amp; Almeida, D. (2020). Unfolding the drivers of students' success in answering multiple-choice questions about Microsoft Excel. <i>Computers in the Schools</i>. 37 (2), 55-73</p>

11	Miguel, H., Ramos, P., Martins, S. C. & Costa, J. M. (2020). Provision of academic data for research: a step for academic success. <i>Education for Information</i> . 36 (4), 389-407 - Times Cited Web of Science®: 1 - Times Cited Scopus: 1 - Times Cited Google Scholar: 7
12	Belo, Y., Moro, S., Martins, A., Ramos, P., Costa, J. M. & Esmerado, J. (2019). Constructed response or multiple-choice questions for assessing declarative programming knowledge? That is the question!. <i>Journal of Information Technology Education: Innovations in Practice</i> . 18, 153-170 - Times Cited Scopus: 1 - Times Cited Google Scholar: 3
13	Costa, J. M. (2019). Microworlds with different pedagogical approaches in introductory programming learning: effects in programming knowledge and logical reasoning. <i>Informatica</i> . 43 (1), 145-174 - Times Cited Web of Science®: 5 - Times Cited Scopus: 4 - Times Cited Google Scholar: 9
14	Costa, J. M. & Miranda, G. L. (2019). Using alice software with 4C-ID Model: effects in programming knowledge and logical reasoning. <i>Informatics in Education</i> . 18 (1), 1-15 - Times Cited Web of Science®: 10 - Times Cited Scopus: 16 - Times Cited Google Scholar: 37
15	Costa, J. M. (2018). Using Alice software with the expository method: a pilot study. <i>International Journal of Engineering and Technology</i> . 10 (6), 1681-1686 - Times Cited Web of Science®: 5 - Times Cited Google Scholar: 4
16	Costa, J. M. & Miranda, G. L. (2017). Relation between Alice software and programming learning: a systematic review of the literature and meta-analysis. <i>British Journal of Educational Technology</i> . 48 (6), 1464-1474 - Times Cited Web of Science®: 39 - Times Cited Scopus: 40 - Times Cited Google Scholar: 70
17	Costa, J. M. & Miranda, G. L. (2017). Desenvolvimento e validação de uma prova de avaliação das competências iniciais de programação. <i>RISTI - Revista Ibérica de Sistemas e Tecnologias de Informação/Iberian Journal of Information Systems and Technologies (RISTI)</i> . 25, 66-81 - Times Cited Web of Science®: 8 - Times Cited Scopus: 6 - Times Cited Google Scholar: 18

## • Books and Book Chapters

### - Book author

1	Ávila, P., Seabra, T., Martins, SC, Costa, J. M., Castro, L. D., Fonseca, A....Albuquerque, Adriana (2024). Estudo sobre a Implementação e o Impacto dos Planos de Ação de Desenvolvimento Digital das Escolas (PADDE). Lisboa. Ministério da Educação - Direção-Geral da Educação. - Times Cited Google Scholar: 3
2	Guilhermina Lobato Miranda, Rafael, M., Melo, M., Costa, J. M. & Pontes, T. B. (2021). 4C-ID Model and Cognitive Approaches to Instructional Design Technology: Emerging Research and Opportunities. Hershey. Igi global. - Times Cited Google Scholar: 1

## - Book chapter

1	Costa, J. M. (2025). Avaliação Autêntica: Colmatando o hiato entre formação académica e prática profissional. In Ana Catarina Nunes, Helena Soares, Isabel Correia, Patrícia Dinis Costa, Vania Baldi, David Isaac, Henrique Lage, Beatriz Saavedra, Gonçalo Tomé Ribeiro, Helena Alvito (Ed.), <i>Novos Exemplos de práticas pedagógicas e estratégias de inovação pedagógica no Iscte</i> . (pp. 23-41). Lisboa: Iscte – Instituto Universitário de Lisboa.
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## • Conferences/Workshops and Talks

### - Publication in conference proceedings

1	Sousa, M. J., Rosa, L. A. B. da., Rodrigues, C. M., Campos, W. Y. Y. Z. & Costa, J. M. (2022). Knowledge transfer through digital education technologies in higher education. In Centobelli, P., and Cerchione, R. (Ed.), <i>Proceedings of the 23rd European Conference on Knowledge Management</i> . (pp. 1115-1122). Nápoles: Academic Conferences International Ltd. - Times Cited Web of Science®: 1 - Times Cited Scopus: 2 - Times Cited Google Scholar: 1
2	Costa, J. M., Araújo, S., Soliman, M. & Sousa, M. J. (2021). Assessment methods determining the higher education students' academic success. In Primo, T. T., Gomes, A. S., Moreira, F., and Collazos, C. (Ed.), <i>Advanced Virtual Environments and Education. Communications in Computer and Information Science</i> . (pp. 77-87). Fortaleza: Springer Cham. - Times Cited Scopus: 4 - Times Cited Google Scholar: 6
3	Costa, J. M. (2014). Using a scenario-based learning with robots to increase the programming interest. In <i>TEEM 2014: Proceedings of the Second International Conference on Technological Ecosystems for Enhancing Multiculturality</i> . (pp. 133-138). Salamanca: ACM Press. - Times Cited Scopus: 3 - Times Cited Google Scholar: 4
4	Gomes, G., Costa, J. M., Bernardo, M., Matos, F. & Abrantes, P. (2012). Dificuldades na aprendizagem da programação no ensino profissional - Perspetiva dos alunos. In <i>Livro de Atas do II Congresso Internacional TIC e Educação</i> . (pp. 438-448). - Times Cited Google Scholar: 17

### - Talk

1	Ávila, P., Seabra, T., Martins, SC, Costa, J. M., Castro, L. D., Correia, J. D....Fonseca, A. (2025). A transição digital nas escolas. Perfis, perceções e práticas de docentes. XIII Congresso Português de Sociologia: Democracias à prova, riscos e incertezas.
2	Costa, J. M. (2019). Integração do Micromundo Alice com o Modelo Instrutivo 4C/ID para Promover o Interesse dos Alunos pela Programação. III Congresso Internacional Envolvimento dos Alunos na Escola: Perspetivas da Psicologia e Educação.

## • Other Publications

### - Report

1	Ávila, P., Seabra, T., Martins, SC, Costa, J. M., Albuquerque, Adriana, Castro, L. D....Fonseca, A. (2023). Estudo sobre a Implementação e o Impacto dos Planos de Ação de Desenvolvimento Digital das Escolas (PADDE). Relatório Final (Versão preliminar).
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## Research Projects

Project Title	Role in Project	Partners	Period
Breaking Inequalities in Digital Education	Principal Researcher	ISTAR-Iscte (IS) - Leader	2025 - 2027
System approach to close the employment gap and create a more inclusive labor market for vulnerable groups	Researcher	BRU-Iscte (Management), CIES-Iscte, ISTAR-Iscte, TNO - Leader (Netherlands), ARC FUND - (Bulgaria), FIOH - (Finland), SDA - (Bulgaria), INAIL - (Italy), UvT - (Netherlands), UCC - (Ireland), AMF - (Netherlands), CENTAR - (Estonia), TERMCERTO - (Portugal), LAO - (Portugal), REDO - (Portugal), PACT - (Portugal), IEFP - (Portugal), KOK - (Finland)	2023 - 2024
Implementação e resultados dos Planos de Ação para o Desenvolvimento Digital das Escolas	Researcher	CIES-Iscte	2023 - 2024
Master's Degree of Managing Digital Transformation in the Health Sector	Researcher	Iscte - Leader, LAUREA - (Finland), AUTH - (Greece), UNI EIFFEL - (France), IT-IUL - (Portugal), Clinipower - (Finland), Whymob - (Portugal), MundiConsulting - (Portugal)	2023 - 2026
University Goes Digital for a Sustainable Global Education	Researcher	IRU-Iscte - Leader, BRU-Iscte, ISTAR-Iscte, CIES-Iscte, DINAMIA'CET-Iscte, Webwise Inovação Lda (webwise Inovação Lda) - (Portugal), Université Gustave Eiffel (Université Gustave Eiffel) - (France), Politecnico di Milano (Polimi) - (Italy), SIGMUND FREUD PRIVATUNIVERSITAT WIEN GMBH (SIGMUND FREUD PRIVATUNIVERSITAT WIEN GMBH) - (Austria)	2021 - 2023

## Academic Management Positions

Presidente (2025 - 2028) Unit/Area: Comissão Científica
Presidente (2025 - 2028) Unit/Area: Comissão Pedagógica
Director (2025 - 2028) Unit/Area: School of Applied Digital Technologies
Director (2024 - 2025) Unit/Area: Master Degree in Digital Transformation in Teaching and Learning
Coordenador do 3º Ano (2024 - 2025) Unit/Area: Bachelor Degree in Digital Educational Technologies
Director (2024 - 2025) Unit/Area: Post Graduation Program in Digital Transformation in Teaching and Learning
Director (2023 - 2025) Unit/Area: Bachelor Degree in Digital Educational Technologies

Coordenador do 1º Ano (2023 - 2024) Unit/Area: Bachelor Degree in Digital Educational Technologies
Vice-Presidente (2022 - 2024) Unit/Area: Comissão Pedagógica
Coordenador do 1º Ano (2022 - 2023) Unit/Area: Bachelor Degree in Digital Educational Technologies
Membro (Docente) (2022 - 2024) Unit/Area: Comissão Científica
Director (2022 - 2023) Unit/Area: Bachelor Degree in Digital Educational Technologies

## Awards

Santander Scholarships - Innovation in Teaching - Harvard Business Publishing (2023)
Scientific Award from Iscte 2022 (2022)
Scientific Award from Iscte 2021 (2021)
Scientific Award from Iscte 2020 (2020)

## Research Networks

Research Network Name	Representative Role	Period
Traces as Research Agenda for Climate Change, Technology Studies, and Social Justice	Membro de Grupo de Trabalho	2021 - 2025
European Network For Gender Balance in Informatics	Membro de Grupo de Trabalho	2022 - 2024

## Organization/Coordination of Events

Type of Organization/Coordination	Event Title	Organizer	Year
Member of free course/summer school's organizing committee	2nd Summer School in Applied Digital Technologies	Iscte-Sintra	2023
Member of free course/summer school's organizing committee	1st Summer School in Applied Digital Technologies	Iscte-Sintra	2022