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## Elizabeth Silva Fernandes

### Associate Researcher

ISTAR-Iscte - Information Sciences, Technologies and Architecture Research Centre



### Contacts

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### Curriculum

Elizabeth Fernandes has developed her career in Data Science and Machine Learning after finishing the Applied Mathematics degree in 2005. Since then, Elizabeth has been working in companies and teaching at the Polytechnic University.

Currently, Elizabeth is Guest Adjunct Professor on a 20% part-time basis at the Polytechnic of Viana do Castelo (IPVC) where she teaches Data Analysis and Mathematics in the Logistics and Marketing degrees.

Since 2017, Elizabeth has split her time between the following areas of work:

- scientific research and Phd studies where she developed a Data Science framework to increase customer loyalty and conversion rates in an online business.

- teaching at IPVC data analysis and artificial intelligence courses.

- mentoring data projects, for example, the "Audience Analytics Accelerator LATAM program" of the International News Media Association within the scope of the Facebook Journalism Project, where she worked with newspapers in Brazil to apply artificial intelligence for retention and churn modeling.

- continuous learning, for example, by obtaining the Certification in Data Strategy and Data Governance from the Instituto de Empresa in Madrid.

Elizabeth worked at Jornal Público (2017-2022) as Head of Analytics and Audience Insights. From September 2022 to May 2025, Elizabeth was responsible for creating the Reporting & Analytics team at Kantar Business Services. Currently, Elizabeth collaborates on the development and implementation of Data Strategies where she applies a methodology for which she is certified by the business school Instituto de Empresa (IE) of Madrid.

Research Interests:

Application of Data Science and Machine Learning in open data and companies data for Decision Support and Value generation in organizations.

Development of Data Strategies and Data Governance frameworks implementation to empower Value-Driven culture in organizations. Leverage AI taking into account People, Processes, Technology, and Culture.

Application domains: Media and Publishers, Marketing, Hospitality, Industry, and Retail.

Elizabeth's academic background includes a B.Sc. in Applied Mathematics (Faculty of Sciences, university of Porto), a M.Sc. in Data Analysis and Decision Support Systems (Faculty of Economics, University of Porto), and a Ph.D. in Information Science and Technology (ISCTE-IUL).

## Research Interests

|                                     |
|-------------------------------------|
| Data Mining                         |
| Artificial Intelligence             |
| Data Science and Digital Journalism |
| Data strategy                       |
| Data Literacy                       |

## Academic Qualifications

| University/Institution                        | Type                        | Degree  | Period |
|---|-----------------------------|---|--------|
| ISCTE-Instituto Universitario de Lisboa       | PhD                         | Information Science and Technology                              | 2023   |
| Instituto de Empresa de Madrid                | Other type of qualification | CERTGED - Certificação em Estratégia de Dados e Data Governance | 2021   |
| INDEG-ISCTE                                   | Other type of qualification | Applied Business Analytics                                      | 2015   |
| Universidade do Porto - Faculdade de Economia | M.Sc.                       | Análise de Dados e Sistemas de Apoio à Decisão                  | 2008   |
| FEUP  | Post-graduation             | Estatística Aplicada e Modelação                                | 2007   |
| Universidade do Porto - Faculdade de Ciências | Licenciante                 | Matemática Aplicada   | 2005   |

## External Professional Activities

| Period      | Employer                               | Country  | Description |
|-------------|--|----------|-------------|
| 2022 - 2025 | Kantar Business Services               | Portugal |             |
| 2017 - 2022 | Jornal Público Comunicação Social S.A. | Portugal |             |

## Supervisions

### • M.Sc. Traineeship Reports

- Concluded

|   | Student Name           | Title/Topic  | Language | Institution | Concluding Year |
|---|------------------------|--|----------|-------------|-----------------|
| 1 | Maria Inês Ramos Velho | Modelling Patterns of Subscription Propensity of online Newspapers | English  | Iscte       | 2023            |

### • M.Sc. Final Projects

- Concluded

|   | Student Name           | Title/Topic  | Language | Institution | Concluding Year |
|---|------------------------|--|----------|-------------|-----------------|
| 1 | Lúcia Madeira Belchior | Churn Prediction in Online Newspaper Subscriptions | English  | Nova IMS    | 2023            |

## Total Citations

|                 |    |
|-----------------|----|
| Web of Science® | 79 |
| Scopus          | 78 |

## Publications

### • Scientific Journals

- Scientific journal paper

|   |  |
|---|--|
| 1 | <p>Belchior, L. M., António, N. &amp; Fernandes, E. (2024). Online newspaper subscriptions: Using machine learning to reduce and understand customer churn. <i>Journal of Media Business Studies</i>. 21 (4), 364-387</p> <p>- Times Cited Web of Science®: 3<br/>- Times Cited Scopus: 2<br/>- Times Cited Google Scholar: 6</p>  |
| 2 | <p>Fernandes, E., Moro, S. &amp; Cortez, P. (2024). A data-driven approach to improve online consumer subscriptions by combining data visualization and machine learning methods. <i>International Journal of Consumer Studies</i>. 48 (2)</p> <p>- Times Cited Web of Science®: 8<br/>- Times Cited Scopus: 8<br/>- Times Cited Google Scholar: 19</p>                  |
| 3 | <p>Fernandes, E., Moro, S., Cortez, P., Batista, F. &amp; Ribeiro, R. (2021). A data-driven approach to measure restaurant performance by combining online reviews with historical sales data. <i>International Journal of Hospitality Management</i>. 94</p> <p>- Times Cited Web of Science®: 39<br/>- Times Cited Scopus: 39<br/>- Times Cited Google Scholar: 72</p> |

**- Review article**

|   |   |
|---|---|
| 1 | <p>Fernandes, E., Moro, S. &amp; Cortez, P. (2023). Data science, machine learning and big data in digital journalism: A survey of state-of-the-art, challenges and opportunities. <i>Expert Systems with Applications</i>. 221</p> <ul style="list-style-type: none"> <li>- Times Cited Web of Science®: 26</li> <li>- Times Cited Scopus: 25</li> <li>- Times Cited Google Scholar: 58</li> </ul> |
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**• Conferences/Workshops and Talks**

**- Publication in conference proceedings**

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|---|--|
| 1 | <p>Fernandes, E., Moro, S. &amp; Cortez, P. (2024). Towards a news recommendation system to increase reader engagement through newsletter content personalization. In Maria Manuela Cruz-Cunha, Dulce Domingos, Emanuel Peres, Rui Rijo (Ed.), <i>Procedia Computer Science</i>. (pp. 217-225). Porto: Elsevier BV.</p> <ul style="list-style-type: none"> <li>- Times Cited Web of Science®: 2</li> <li>- Times Cited Scopus: 4</li> <li>- Times Cited Google Scholar: 6</li> </ul> |
|---|--|

**- Talk**

|   |  |
|---|--|
| 1 | <p>Fernandes, E., Alípio Jorge &amp; Rui M. M. Brito (2008). A Knowledge Discovery Method for the Characterization of Protein Unfolding Processes. <i>International Workshop on Practical Applications of Computational Biology and Bioinformatics IWPACBB 2008</i>.</p> <ul style="list-style-type: none"> <li>- Times Cited Web of Science®: 1</li> <li>- Times Cited Google Scholar: 1</li> </ul> |
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| Diffusion Activities                      |  |   |      |
|---|--|---|------|
| Activity Type                             | Event Title  | Activity Description  | Year |
| Talk/Conference in public diffusion event | DES Digital Enterprise Show of Málaga - CDO Summit                               | Navigating the Data Regulatory Maze: Seizing Opportunities  | 2024 |
| Talk/Conference in public diffusion event | CENTERIS Conference on ENTERprise Information                                    | Towards a News Recommendation System to increase Reader Engagement through Newsletter Content Personalization | 2023 |
| Coordination of knowledge diffusion event | CDAO Europe - Amesterdam   | How Can You Leverage Data & Analytics to Develop a 360-View of the Customer and Accelerate CX Strategy?       | 2022 |
| Talk/Conference in public diffusion event | Product and Data for Media Summit da International News Media Association (INMA) | Digital Transformation Roadmap  | 2021 |
| Coordination of knowledge diffusion event | Virtual LATAM Summit International News Media Association (INMA)                 | The adoption of the data in a media company   | 2021 |