

Dr Debora Correa



THE UNIVERSITY OF
**WESTERN
AUSTRALIA**

Dr Debora Correa

Chief Investigator

Theme 2

Dr Débora Corrêa is an enthusiast of computer science and data science; she has worked in data science on time series analysis, machine learning, computer vision, neural networks and complex networks. Débora is motivated by application-driven problems where the interplay between theory and application enriches both and results in a proper data analysis that contributes to the real world. Débora has explored solutions in bioengineering and biomedical signals, music, audio signals and diverse engineering systems. In addition, her research allows her to work and build collaborations with many researchers across different fields, including the opportunity to supervise postdoctoral, undergraduate, master and PhD students.

Publications

- [Selecting embedding delays: An overview of embedding techniques and a new method using persistent homology \(...\)](#) —

Journal Article

[Dr Debora Correa](#)

Authors: Eugene Tan, Shannon Alga, Débora Corrêa, Michael Small, Thomas Stemler and David Walker¹

2023-03-01

- [A Novel Approach to Time Series Complexity via Reservoir Computing \(...\)](#) —

Conference Publishing

[Braden Thorne](#)

Authors: Braden Thorne, Thomas Jüngling , Michael Small , Debora Correa , and Ayham Zaitouny

2022-12-07

- [Reservoir time series analysis: Using the response of complex dynamical systems as a universal indicator of change \(...\)](#) —

Journal Article

[Braden Thorne](#)

Authors: Thorne, Braden Jüngling, Thomas Small, Michael Corrêa, Débora Zaitouny, Ayham

2022-02-10

- [Managing streamed sensor data for mobile equipment prognostics. \(...\)](#) —

Journal Article

[Dr Debora Correa](#)

Authors: Griffiths, T., Corrêa, D., Hodkiewicz, M., & Polpo, A. (2022). Managing streamed sensor data for mobile equipment prognostics. Data-Centric Engineering, 3, E11. doi:10.1017/dce.2022.4

2022-04-07

- [Data-Driven Approach for Labelling Process Plant Event Data \(...\)](#) —

Journal Article

[Dr Debora Correa](#)

Authors: Débora Corrêa, Adriano Polpo, Michael Small, Shreyas Srikanth, Kylie Hollins, Melinda Hodkiewicz

2022-01-24

- [On detecting dynamical regime change using a transformation cost metric between persistent homology diagrams. \(...\)](#) —

Journal Article

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Débora has worked as a Research Fellow at the ARC ITTC Transforming Maintenance Through Data Science (CTMTDS) from 2019-to 2021. In this position, she developed research in data science projects to solve industry problems. She cooperated with industry peers and stakeholders to improve the way maintenance is performed using data analytics. Débora has supervised PhD students in their industry placements, guiding them for deliverables that add value to the business and taking part in talking to the industry partners. Débora has developed and is now teaching machine learning units at the professional programs promoted by CORE Skills.

In 2022, Débora commenced an appointment at the UWA Computer Science Department and has continued supervising and mentoring students of the ARC ITTC CTMTDS as a Chief Investigator. Debora is currently developing mathematical tools to analyse large-scale temporal data consisting of many variables, mixed data types and resolution. She wants Australian companies to benefit from recent advances and accessibility of sensor technologies and instrumentation by effectively and efficiently extracting meaningful information from this massive data to guide strategic business decisions. Debora will develop solutions for open problems in industrial asset condition-based monitoring.

Research Gate

Authors: Dee Algar, S., Corrêa, D.C. and Walker, D.M

2021-12-17

- [Deforestation-induced surface warming is influenced by the fragmentation and spatial extent of forest loss in Maritime Southeast Asia \(...\)](#) —

Journal Article

[Dr Debora Correa](#)

Authors: Crompton, O., Corrêa, D., Duncan, J. and Thompson, S.,

2021-09-03

- [Grading your models: Assessing dynamics learning of models using persistent homology \(...\)](#) —

Journal Article

[Dr Debora Correa](#)

Authors: Eugene Tan, Débora Corrêa, Thomas Stemler, Michael Small

2021-12-01

- [On using the modularity of recurrence network communities to detect change-point behaviour \(...\)](#) —

Journal Article

[Dr Ayham Zaitouny](#)

Authors: David M. Walker, Ayham Zaitouny, Debora C. Correa*

2021-03-01

- [Quantifying the generalization capacity of Markov models for melody prediction \(...\)](#) —

Journal Article

[Dr Debora Correa](#)

Authors: Corrêa, D. C., Jüngling, T., & Small, M.,

2020-02-17

- [Constrained Markov Order Surrogates \(...\)](#) —

Journal Article

[Dr Debora Correa](#)

Authors: Corrêa, D. C., Moore, J. M., Jüngling, T., & Small, M.

2020-02-28

- [Reconstruction of Complex Dynamical Systems from Time Series using Reservoir Computing \(...\)](#) —

Journal Article

[Prof Michael Small](#)

Authors: Jüngling, T., Lymburn, T., Stemler, T., Corrêa, D., Walker, D. & Small, M.,

2019-05-01

Presentations

- [Master Class - Complex Time Series Modelling \(...\)](#) —



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2021-04-15

- [Applied Mathematics and Complex Systems Seminars \(...\)](#) —



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2020-08-13

- [Managing Streamed Sensor Data for Mobile Equipment Failure Prediction \(...\)](#) —



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2020-09-08

- [Intelligent Maintenance Conference 2020 \(...\)](#) —



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2020-09-08

Awards and Prizes

- [ARC Discovery Grant in the 2020 round. \(...\)](#)
- [National Geographic Society - AI for Earth Innovation Grant \(...\)](#)

Tools

Content by label

There is no content with the specified labels