André dos Santos

Postdoc Researcher · Industrial Engineer · Professor

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Experience

Computing Science Department - University of Alberta — *Edmonton, Canada*

Postdoctoral Fellow

Synthetic Data & Explainability — *Spring 2020 - Present*

Computer Science Department - University of Regina — *Regina, Canada*

Sessional Lecturer

CS340 Advanced Data Structures and Algorithm Design — *Summer 2020*
CS330 Introduction to Operating Systems — *Winter 2020*
CS115 Object-Oriented Design — *Winter 2020*
CS310 Discrete Computational Structures — *Fall 2019*

Guest Lecturer

CS875 Database Systems — *Fall 2018*
CS838 Uncertain Reasoning in AI — *Spring 2017*

Lab instructor & Marker

CS210 Data Structures and Abstractions — *2019*
CS215 Web and Database Programming — *2018*
CS110 Programming and Problem Solving — *2015 - 2019*

Audio Visual Services - University of Regina — *Regina, Canada*

Clerical Clerk — *2015 - 2019*
Distant education broadcasting operator — *Winter 2016*
Co-op placement — *Fall 2013*

Guhring Brasil Ferramentas LTDA — *Joinville, Brazil*

Logistic Analyst — *2011 - 2012*

Education

University of Regina — *Regina, Canada*

Ph.D. of Science Student in Computer Science — *2016 - 2020*
Study emphasis Deep Learning & Probabilistic Graphical Models

Master of Science in Computer Science — *2015 - 2016*
Study emphasis Probabilistic Graphical Models

University of Santa Catarina State — *Joinville, Brazil*

Bachelor of Industrial System Engineering — *2009 - 2014*

SENAI — *Joinville, Brazil*

Industrial Training Course - Electrician — *2007*

Skills

Artificial Intelligence · XAI · Deep Learning · Engineering · Bayesian Networks · Join Tree Propagation · Web Development · Python · TensorFlow · C++ · Spark · MySQL

Publications

Refereed Conference Papers

1. C. J. Butz, J. S. Oliveira, A. E. dos Santos, and A. L. Teixeira. Deep convolutional sum-product networks. In *Thirty-Third AAAI Conference on Artificial Intelligence (AAAI)*, 2019
2. C. Butz, A. L. Teixeira, A. E. Dos Santos, and J. S. Oliveira. On the tree structure of deep convolutional sum-product networks. In *Thirty-Second International Florida Artificial Intelligence Research Society Conference (FLAIRS)*, pages 500–503, 2019
3. C. J. Butz, A. E. dos Santos, J. S. Oliveira, and A. L. Madsen. Exploiting symmetry of independence in d-separation. In *Thirty-second Canadian Conference on Artificial Intelligence (AI)*, pages 42–54, 2019
4. A. L. Madsen, C. J. Butz, J. Oliveira, and A. E. dos Santos. Solving influence diagrams with simple propagation. In *Thirty-second Canadian Conference on Artificial Intelligence (AI)*, pages 68–79, 2019
5. C. J. Butz, J. S. Oliveira, A. E. dos Santos, and A. L. Madsen. An empirical study of Bayesian network inference with simple propagation. *International Journal of Approximate Reasoning (IJAR)*, 92:198–211, 2018
6. A. L. Madsen, C. J. Butz, J. S. Oliveira, and A. E. dos Santos. Simple propagation with arc-reversal in bayesian networks. In *Ninth International Conference on Probabilistic Graphical Models (PGM)*, 2018
7. C. J. Butz, A. E. dos Santos, J. S. Oliveira, and J. Stavrinides. Efficient examination of soil bacteria using probabilistic graphical models. In *Thirty-first International Conference on Industrial, Engineering & Other Applications of Applied Intelligent Systems*, pages 315–326, 2018
8. C. J. Butz, J. S. Oliveira, and A. E. dos Santos. On learning the structure of sum-product networks. In *2017 IEEE Symposium Series on Computational Intelligence (SSCI)*, pages 1–8, 2017
9. A. E. dos Santos, C. J. Butz, and J. S. Oliveira. On converting sum-product networks into bayesian networks. In *Thirtieth Canadian Conference on Artificial Intelligence (AI)*, pages 329–334, 2017
10. J. S. Oliveira, C. J. Butz, and A. E. dos Santos. Resolving inconsistencies of scope interpretations in sum-product networks. In *Thirtieth Canadian Conference on Artificial Intelligence (AI)*, pages 305–315, 2017
11. C. J. Butz, A. E. Dos Santos, and J. S. Oliveira. On finding relevant variables in discrete bayesian network inference. In *Thirtieth International Florida Artificial Intelligence Research Society Conference (FLAIRS)*, pages 730–735, 2017
12. C. J. Butz, A. E. dos Santos, and J. S. Oliveira. Relevant path separation: A faster method for testing independencies in bayesian networks. In *Eighth International Conference on Probabilistic Graphical Models (PGM)*, pages 74–85, 2016
13. C. J. Butz, J. S. Oliveira, A. E. dos Santos, and A. L. Madsen. Bayesian network inference with simple propagation. In *Twenty-ninth International Florida Artificial Intelligence Research Society Conference (FLAIRS)*, pages 650–655, 2016
14. C. J. Butz, A. E. dos Santos, J. S. Oliveira, and C. Gonzales. On a simple method for testing independencies in bayesian networks. *Computational Intelligence (CI)*, 34(3):789–801, 2017
15. A. L. Madsen, C. J. Butz, J. S. Oliveira, and A. E. dos Santos. On tree structures used by simple propagation. In *Twenty-ninth Canadian Conference on Artificial Intelligence (AI)*, pages 207–212, 2016
16. C. J. Butz, J. S. Oliveira, A. E. dos Santos, and A. L. Madsen. Bayesian network inference with simple propagation. In *Twenty-ninth International Florida Artificial Intelligence Research Society Conference (FLAIRS)*, pages 650–655, 2016
17. C. J. Butz, J. S. Oliveira, A. E. dos Santos, and A. L. Madsen. Testing independencies in bayesian networks with i-separation. In *Twenty-ninth International Florida Artificial Intelligence Research Society Conference (FLAIRS)*, pages 644–649, 2016
18. C. Butz, J. Oliveira, and A. dos Santos. Darwinian networks. In *Twenty-eighth Canadian Conference on Artificial Intelligence (AI)*, pages 16–29, 2015
19. C. J. Butz, J. S. Oliveira, and A. E. dos Santos. Determining good elimination orderings with Darwinian networks. In *Twenty-eighth International Florida Artificial Intelligence Research Society Conference (FLAIRS)*, pages 600–603, 2015

Papers in Refereed Journals

1. C. J. Butz, J. S. Oliveira, A. E. dos Santos, and A. L. Madsen. An empirical study of Bayesian network inference with simple propagation. *International Journal of Approximate Reasoning (IJAR)*, 92:198–211, 2018
2. C. J. Butz, A. E. dos Santos, J. S. Oliveira, and C. Gonzales. An empirical study of testing independencies in bayesian networks using rp-separation. *International Journal of Approximate Reasoning (IJAR)*, 92:270–278, 2018
3. C. J. Butz, A. E. dos Santos, J. S. Oliveira, and C. Gonzales. On a simple method for testing independencies in bayesian networks. *Computational Intelligence (CI)*, 34(3):789–801, 2017
4. C. J. Butz, J. S. Oliveira, and A. E. dos Santos. On Darwinian networks. *Computational Intelligence (CI)*, 33(4):629–655, 2017
5. A. E. dos Santos, A. T. Bringhenti, J. I. Zimmermann, G. O. Verran, R. K. Scalice, and D. Bond. Proposal and evaluation of a selection procedure for cast parts. *Journal of the Brazilian Society of Mechanical Sciences and Engineering*, 39(8):3151–3163, 2017

Service

2016 2020	**President | Treasurer | Secretary**, University of Regina Jiu Jitsu Club	*Regina, Canada*
2016 2020	**President | Treasurer | Secretary**, Brazilian Student Association (BRASA)	*Regina, Canada*
2018	**Logo & Website creator**, University of Regina Jiu Jitsu Club	*Regina, Canada*
2016	**Logo creator**, RPIRG The Green Patch Garden	*Regina, Canada*
2010	**Introduction to Computers for the Elderly and Adults**, University of Santa Catarina State	*Joinville, Brazil*

Awards

University of Regina *Regina, Canada*

Graduate Studies Research Fellowship (GRF)

$22,623.38 *2016 - 2020*

Scholarly Awards

$5,600	*Winter 2016*
$6,000	*Fall 2015*
$3,500	*Summer/Spring 2015*
$65,023.41 BLR	*2013*

University of Santa Catarina State *Joinville, Brazil*

Science Without Borders SWG/CanadaCBIE

$65,023.41 BRL *2013*

Languages

English	*Advanced Professional Proficiency*
Portuguese	*Functionally Native Proficiency*
Spanish	*Elementary Proficiency*
French	*Elementary Proficiency*

About

Brazilian, 28 years old
3rn kyu (light blue belt) in Shorinji Kan Jiu Jitsu
Cartoon website https://evahqs.tumblr.com/
Ukulele enthusiast

References

[1] C. Butz, J. Oliveira, and A. dos Santos. Darwinian networks. In Twenty-eighth Canadian Conference on Artificial Intelligence (AI), pages 16–29, 2015.

[2] C. Butz, A. L. Teixeira, A. E. Dos Santos, and J. S. Oliveira. On the tree structure of deep convolutional sum-product networks. In Thirty-Second International Florida Artificial Intelligence Research Society Conference (FLAIRS), pages 500–503, 2019.

[3] C. J. Butz, A. E. dos Santos, and J. S. Oliveira. Relevant path separation: A faster method for testing independencies in bayesian networks. In Eighth International Conference on Probabilistic Graphical Models (PGM), pages 74–85, 2016.

[4] C. J. Butz, A. E. Dos Santos, and J. S. Oliveira. On finding relevant variables in discrete bayesian network inference. In Thirtieth International Florida Artificial Intelligence Research Society Conference (FLAIRS), pages 730–735, 2017.

[5] C. J. Butz, A. E. dos Santos, J. S. Oliveira, and C. Gonzales. On a simple method for testing independencies in bayesian networks. Computational Intelligence (CI), 34(3):789–801, 2017.

[6] C. J. Butz, A. E. dos Santos, J. S. Oliveira, and C. Gonzales. An empirical study of testing independencies in bayesian networks using rp-separation. International Journal of Approximate Reasoning (IJAR), 92:270–278, 2018.

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[9] C. J. Butz, J. S. Oliveira, and A. E. dos Santos. Determining good elimination orderings with Darwinian networks. In Twenty-eighth International Florida Artificial Intelligence Research Society Conference (FLAIRS), pages 600–603, 2015.

[10] C. J. Butz, J. S. Oliveira, and A. E. dos Santos. On Darwinian networks. Computational Intelligence (CI), 33(4):629–655, 2017.

[11] C. J. Butz, J. S. Oliveira, and A. E. dos Santos. On learning the structure of sum-product networks. In 2017 IEEE Symposium Series on Computational Intelligence (SSCI), pages 1–8, 2017.

[12] C. J. Butz, J. S. Oliveira, A. E. dos Santos, and A. L. Madsen. Bayesian network inference with simple propagation. In Twenty-ninth International Florida Artificial Intelligence Research Society Conference (FLAIRS), pages 650–655, 2016.

[13] C. J. Butz, J. S. Oliveira, A. E. dos Santos, and A. L. Madsen. Testing independencies in bayesian networks with i-separation. In Twenty-ninth International Florida Artificial Intelligence Research Society Conference (FLAIRS), pages 644–649, 2016.

[14] C. J. Butz, J. S. Oliveira, A. E. dos Santos, and A. L. Madsen. An empirical study of Bayesian network inference with simple propagation. International Journal of Approximate Reasoning (IJAR), 92:198–211, 2018.

[15] C. J. Butz, J. S. Oliveira, A. E. dos Santos, and A. L. Teixeira. Deep convolutional sum-product networks. In Thirty-Third AAAI Conference on Artificial Intelligence (AAAI), 2019.

[16] A. E. dos Santos, A. T. Bringhenti, J. I. Zimmermann, G. O. Verran, R. K. Scalice, and D. Bond. Proposal and evaluation of a selection procedure for cast parts. Journal of the Brazilian Society of Mechanical Sciences and Engineering, 39(8):3151–3163, 2017.

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[20] A. L. Madsen, C. J. Butz, J. S. Oliveira, and A. E. dos Santos. Simple propagation with arc-reversal in bayesian networks. In Ninth International Conference on Probabilistic Graphical Models (PGM), 2018.

[21] J. S. Oliveira, C. J. Butz, and A. E. dos Santos. Resolving inconsistencies of scope interpretations in sum-product networks. In Thirtieth Canadian Conference on Artificial Intelligence (AI), pages 305–315, 2017.