Austin J. Brockmeier

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EDUCATION

Ph.D., Electrical and Computer Engineering, University of Florida, Gainesville, FL — 5/2014
"Learning and exploiting recurrent patterns in neural data", Advisor: Jose C. Principe

B.S., Computer Engineering, University of Nebraska–Lincoln, Omaha, NE — 5/2009
Highest Distinction, 2nd Major: Mathematics, Minor: Computer Science

EXPERIENCE

Assistant Professor   University of Delaware, Newark, Delaware   12/2018–Present
Electrical and Computer Engineering; Computer and Information Sciences
Data Science Institute (Resident Faculty)

Research Fellow   University of Manchester, United Kingdom   3/2017–10/2018
School of Computer Science, Mentor: Sophia Ananiadou

Research Associate   University of Liverpool, United Kingdom   6/2014–2/2017
School of Electrical Engineering, Electronics & Computer Science, Mentor: John Y. Goulermas

Graduate Research Assistant   University of Florida   5/2010–5/2014
Department of Electrical and Computer Engineering, Mentor: Jose C. Principe

Research Assistant   University of Nebraska–Lincoln (Omaha Campus)   Summer 2008/2009
Department of Computer and Electronics Engineering, Mentor: Hamid Sharif

Electronics Engineer   Cenatmed, LLC, Omaha, NE   4/2008–7/2009

IT Operations Intern   Union Pacific Railroad, Omaha, NE   8/2006–8/2008

HONORS AND AWARDS

International and National
- Top 5 List, Neural Engineering Community Award, IEEE EMBS NER Conf. — 2021
- Top 200 Reviewer, Neural Information Processing Systems (NeurIPS) — 2018
- Finalist, IEEE EMBS Conference Student Paper Competition — 2013
- NSF East Asia and Pacific Summer Institutes Fellowship, JSPS Summer Program — 2012
  "Signal processing techniques to separate and analyze brainwaves" hosted by
  Andrzej Cichocki, RIKEN Brain Science Institute, Japan
- Honorable Mention, NSF Graduate Research Fellowship — 2009, 2010, 2011

University of Florida
- Honorable Mention, Outstanding Service, Graduate Student Council — 2014
- Graduate School Fellowship — 2009–2013

University of Nebraska
- Dean's Award, College of Engineering — 2009
- Outstanding Senior, Computer and Electronics Engineering — 2009
- Undergraduate Major Honoree, Computer and Electronics Engineering — 2009
- 1st Place Senior Thesis Design Team, Computer and Electronics Engineering — 2009
- James Earl Mathematics Scholarship, Math. Dept., U. Nebraska Omaha — 2008–2009
- Tau Beta Pi Distinguished Freshman Award — 2006
- Walter Scott Jr. Scholarship, Peter Kiewit Institute — 2005–2009
- University of Nebraska Regents Scholarship — 2005–2009

RESEARCH GRANTS

- **National Science Foundation** NSF 2123264 — 9/15/2021–8/31/2024
  "Collaborative Research: HDR DSC: Delaware and Mid-Atlantic Data Science Corps",
  Role: Senior Personnel at 0.5 and 0.25 months effort in years 1 and 2 (PI: Federica
  Bianco, University of Delaware)

- **National Institutes of Health** R21 NS122033-01A 9/3/2021–7/31/2023
  "Integrative Data Analysis to Identify Persistent Post-Concussion Deficits and Subsequent Musculoskeletal Injury Risk", Role: Co-I at 0.85 months effort in years 1 and 2, supports 1 research assistant for 2 years (PI: Thomas A. Buckley, University of Delaware)
- **National Science Foundation** NSF 2125703 9/1/2021–8/31/2026
  "NRT-HDR: Computing and Data Science Training for Materials Innovation, Discovery, Analytics", Role: Senior Personnel at 0.21 months effort in year 1 and 0.17 months in subsequent years, possible support for multiple trainees (PI: Arthi Jayaraman, University of Delaware)
- **National Science Foundation** NSF 2108841 8/1/2021–7/31/2024
  "Detecting and studying light echoes in the era of Rubin and artificial intelligence", Role: Co-PI at 0.5 months effort in years 1 and 2 (PI: Federica Bianco, University of Delaware)
- **Office of Naval Research** N00014-21-1-2300 4/2021–4/2024
  "Interpretable maximal discrepancies metrics for analyzing and improving generative models", Role: PI ($346,941)
- **Office of Naval Research** 6/1/2020–5/31/2022
  (Subaward from *Minority Serving Institutions Science, Technology, Engineering and Mathematics Research & Development Consortium*) "Development of Bio-Inspired Nano-Sensors for Underwater Explosives and Hazardous Materials" Role: Co-PI (PI: Bruce Kim, City College of New York) (UD portion $170,659)
- **University of Delaware Research Foundation** 11/1/2019–10/31/2021
  UDRF–SI: "Advancing machine learning for neuroimaging through topology-aware signal processing" Role: PI (Senior Mentor: Gonzalo Arce, University of Delaware) ($30,000 + $15,000 match)
- **Unidel Foundation**, UD's Data Science Institute Mini-Grant 9/12/2019–5/31/2020
  "Learning to predict systematic errors in machine learning models and alert an expert for improved synergistic performance" Role: PI ($10,000)

TEACHING **University of Delaware**, Newark, Delaware, USA

Instructor, Signals and Systems (ELEG 305) Spring 2020, Spring 2021, Spring 2022

Instructor, Large Scale Machine Learning (ELEG/FSAN 817) Fall 2019, Fall 2020, Fall 2021
Developed as a previously untaught course to serve as a second and capstone course in machine learning for graduate students. Covers computational and statistical scaling from both theoretical and practical perspectives.

Guest lecture, Signals and Systems (ELEG 305) Spring 2019

Guest lectures, Search and Data Mining (CPEG/ELEG 457/657) Spring 2019

Guest lecture, Introduction to Data Mining (CISC 483/683) Spring 2019

University of Liverpool, Liverpool, UK

Instructor (5 weeks), Eng. Skills (ELEC 171/172) Matlab module Spring 2016, Fall 2016

Guest lecturer (8 weeks), Neural Networks (ELEC 320) Spring 2015

University of Florida, Gainesville, Florida, USA

Guest lecturer, Brain Machine Interfaces (EEL 6935) Fall 2011, Fall 2013

Teaching Assistant, Microprocessor Applications (EEL 4744) Fall 2009, Spring 2010

University of Nebraska-Lincoln (Omaha Campus), Omaha, Nebraska, USA

Teaching Assistant, Microprocessor System Design (CEEN 4330) Spring 2009

Teaching Assistant, Digital Design and Interfacing (CEEN 3110) Fall 2008

Ph.D. Students		
	Hassan Baker, Electrical and Computer Engineering	Spring 2020–present
	Bilal Riaz, Electrical and Computer Engineering	Fall 2019–present
	Yüksel Karahan, Electrical and Computer Engineering	Spring 2019–present
	Carlos H. Mendoza-Cardenas, Electrical and Computer Engineering	Winter 2019–present

Master's Students

	Hau Van Phan, Electrical and Computer Engineering	Winter 2021–present
	C. Cesar Claros, Electrical and Computer Engineering	M.S., Summer 2020

Research Advisee	Kristina Holton, Bioinformatics Data Science	Spring 2020–present

Undergraduate Researchers

	Evan Curtin, Summer Scholars Program	Summer 2021
	Justin Labombard, Summer Scholars Program	Summer 2021
	Thomas Pisklak, Summer Scholars Program	Summer 2021

Visiting Scholars

	Andres Nicolas Lopez, MSc., National University of Colombia	Summer 2021
	Edwin Salcedo, M.Sc., M.B.A., Bolivian Catholic University, La Paz	Summer 2019

Thesis/Ph.D. Committee Membership:

	Sergio Sepúlveda, Electrical and Computer Engineering	Ph.D. proposal, 8/2021
	Xinjie "Ethan" Lan, Electrical and Computer Engineering	Ph.D. proposal, 8/2021
	Rebecca Clements, Biomedical Engineering	Senior Thesis, 5/2021
	Zahra Vahdat, Electrical and Computer Engineering	Ph.D. proposal, 12/2020
	Zhenzhu Zheng, Computer and Information Sciences	Ph.D. proposal, 11/2020
	Kevin Corder, Computer and Information Sciences	Ph.D. proposal, 3/2020
	Kuang Lu, Electrical and Computer Engineering	Ph.D., 11/2020
	Micahel J. De Lucia, Electrical and Computer Engineering	Ph.D., 3/2020
	Alejandro Parada-Mayorga, Electrical and Computer Engineering	Ph.D., 7/2019

Training in Pedagogy and Mentoring	
	– Culturally Aware Mentoring, Workshop and Introduction CIMER, University of Wisconsin-Madison and University of Delaware 1/2021
	– Inclusive Teaching Professional Development Workshop Series, University of Delaware College of Engineering Diversity Working Group Spring/Fall 2019
	– Course Design Institute, University of Delaware 6/2019
	– Associate Fellow of The Higher Education Academy 3/2016 awarded following "Teaching for Researchers" modules at University of Liverpool

Outreach Activities	
	– Project Judge, "UD GSG Hackathon on Misinformation and Cybersecurity" 4/25/2021
	– Presenter, "Engineering Your Tomorrow", Sussex County (DE) STEM Alliance 2/2020
	– Presenter, Serviam Girls Academy, "Measuring Electric Waves in the Brain" 5/2019
	– Project Judge, FIRST LEGO League SE Pennsylvania Regional Championship 2/2019
	– Volunteer, Engineering Discovery Day, University of Delaware, $A\Omega E$ 10/2018
	– Volunteer, "Meet the Scientists", at Liverpool's World History Museum 6/2016
	– Science Fair Judge (6-8th graders), Alachua County, Florida 2009–2013
	– Science Quest (10th graders), University of Florida (UF) 7/2011
	– Guest Lecture, Student Science Training Program ($10 - 12$th graders) UF 2010

University Service	
	– Neuroscience Planning Committee (Chairs: John Jeka/Anna Klintsova) 8/2019–3/2021

DATA SCIENCE INSTITUTE SERVICE	– Data Science Community Hour (faculty advisor) – Technology & Data Analytics Career Meetup (DSI Representative) – Data Science Symposium Planning Committee (Chairs: Greg Dobler & Zachary Collier) – Mastering Data Science and Statistical Analysis Information Session	1/2021–5/2021 3/4/2020 4/2019–11/2019 2× in 2019
COLLEGE OF ENGINEERING SERVICE	– Mentor, COE NSF GRFP Coaching Progam – Presenter, COE NSF GRFP Workshop	10/2021 9/2/2021
ECE DEPARTMENT SERVICE	– IEEE Student Chapter Branch Counselor – Undergraduate Academic Advisor – Representative, Blue & Golden Saturdays 3× in 2019, 2× in 2020, 2× in 2021 – Member, ECE Strategic Planning Committee (Chair: Jamie Phillips) – Representative, Delaware Decision Days 2× in 2019, 3× in 2021 – Member, ECE Activities Committee (Chair: Vishal Saxena) – Member, ECE Areas Ad-hoc Committee (Chair: Kenneth Barner) – Representative, Alumni Weekend: "Mastering Makerspaces!"	5/2019–present 8/2020–present 9/2020–5/2021 Fall 2021 Fall 2019 June 2019
CIS DEPARTMENT SERVICE	– CIS Representative, Executive Committee, MSDS Program – Faculty Search Committee, Computer & Information Sciences (Chair: Chien-Chung Shen; search resulted in 3 tenure-track faculty hires.)	9/2021–present 2019–2020
PREVIOUS LEADERSHIP AND SERVICE ROLES	– *Student Senator*, University of Florida – *Volunteer*, Engineering Recruitment Weekend, University of Florida – *President*, IEEE Omaha Student Chapter – *Delegate*, Peter Kiewit Institute, University of Nebraska – *Volunteer*, Nebraska Academic Decathlon (9-12th graders) – *Member*, Nebraska Coalition for Juvenile Justice	2011–2012 2010–2014 5/2008–5/2009 2007–2009 2006–2008 2003–2007

PROFESSIONAL INVOLVEMENT	– IEEE (Institute for Electrical and Electronics Engineers)
	  —Signal Processing Society
	  —Engineering in Medicine and Biology Society (EMBS)
	  University of Delaware Student Branch Counselor
		2006–Present
		2013–Present
		2010–Present
		5/2019–Present

ACADEMIC SERVICE (REVIEWER)	– NSF Reviewer Journals: – *IEEE Transactions on Automatic Control* – *IEEE Transactions on Neural Networks and Learning Systems* – *IEEE Transactions on Knowledge Data Engineering* – *IEEE Transactions on Signal Processing* – *IEEE Access* – *IEEE Transactions on Biomedical Engineering* Conferences: – *AAAI* – *EMNLP* – *ICASSP* – *ICLR* – *ICML* – *MLSP* – *NeurIPS* – *IEEE EMBS NER*	2021 2021 2015– 2017– 2019, 2020 2019 2014, 2018 2018,2020–2022 2018 2009,2018–2022 2021–2022 2019,2021 2018–2021 2018–2021 2013,2017,2019,2021

JOURNAL ARTICLES

17. E. N. Hamulyák, A. J. Brockmeier, J. D. Killas, S. Ananiadou, S. Middeldorp, and A. M. Leroi, "Women's health in *The BMJ*: a data science history," *BMJ Open*, 10:e039759, 2020.

16. X. Evangelopoulos, A. J. Brockmeier, T. Mu, J. Y. Goulermas, "Circular object arrangement using spherical embeddings," *Pattern Recognition*, 103(107192), 2020.

15. A. J. Brockmeier, M. Ju, P. Przybyła, and S. Ananiadou, "Improving reference prioritisation with PICO recognition," *BMC Medical Informatics and Decision Making*, 19(256), 2019.

Journals based on work prior to joining University of Delaware

14. P. Przybyła, A. J. Brockmeier, and S. Ananiadou, "Quantifying risk factors in medical reports with a context-aware linear model," *Journal of the American Medical Informatics Association*, 26(6):537–546, 2019.

13. X. Evangelopoulos, A. J. Brockmeier, T. Mu, J. Y. Goulermas, "Continuation methods for approximate large scale object sequencing," *Machine Learning*, 108(4):595–626, 2019.

12. P. Przybyła, A. J. Brockmeier, G. Kontonatsios, M.-A. Le Pogam, J. McNaught, E. von Elm, K. Nolan, and S. Ananiadou, "Prioritising references for systematic reviews with Robot-Analyst: A user study," *Research Synthesis Methods*, 9(3):470–488, 2018.

11. A. J. Brockmeier, T. Mu, S. Ananiadou, and J. Y. Goulermas, "Self-tuned descriptive document clustering using a predictive network," *IEEE Transactions on Knowledge and Data Engineering*, 30(10):1929–1942, 2018.

10. A. J. Brockmeier, T. Mu, S. Ananiadou, and J. Y. Goulermas, "Quantifying the informativeness of similarity measurements," *Journal of Machine Learning Research*, 18(76):1–61, 2017.

9. G. Kontonatsios, A. J. Brockmeier, P. Przybyła, J. McNaught, T. Mu, J. Y. Goulermas, and S. Ananiadou, "A semi-supervised approach using label propagation to support citation screening," *Journal of Biomedical Informatics*, 72:67–76, 2017.

8. J. S. Choi, A. J. Brockmeier, D. McNiel, L. von Kraus, J. C. Principe, and J. T. Francis, "Eliciting naturalistic cortical responses with a sensory prosthesis via optimized microstimulation," *Journal of Neural Engineering*, 13(5):056007, 2016.

7. A. J. Brockmeier and J. C. Principe, "Learning recurrent waveforms within EEGs," *IEEE Transactions on Biomedical Engineering*, 63(1):43–54, 2016.

6. M. S. Emigh, E. G. Kriminger, A. J. Brockmeier, J. C. Príncipe, and P. M. Pardalos, "Reinforcement learning in video games using nearest neighbor interpolation and metric learning," *IEEE Transactions on Computational Intelligence and AI in Games*, 8(1):56–66, 2016.

5. J. C. Principe and A. J. Brockmeier, "Representing and decomposing neural potential signals," *Current Opinion in Neurobiology*, 31:13–17, 2015.

4. A. J. Brockmeier, J. S. Choi, E. G. Kriminger, J. T. Francis, and J. C. Principe, "Neural decoding with kernel-based metric learning," *Neural Computation*, 26(6):1080–1107, 2014.

3. L. Li, A. J. Brockmeier, J. S. Choi, J. T. Francis, J. C. Sanchez, and J. C. Príncipe, "A tensor-product-kernel framework for multiscale neural activity decoding and control," *Computational Intelligence and Neuroscience*, Article ID 87016, 2014.

2. L. Li, I. M. Park, A. Brockmeier, B. Chen, S. Seth, J. T. Francis, J. C. Sanchez, and J. C. Principe, "Adaptive inverse control of neural spatiotemporal spike patterns with a reproducing kernel Hilbert space (RKHS) framework," *IEEE Transactions on Neural Systems and Rehabilitation Engineering*, 21(4):532–543, 2013.

1. J. S. Choi, M. M. DiStasio, A. J. Brockmeier, and J. T. Francis, "An electric field model for prediction of somatosensory (S1) cortical field potentials induced by ventral posterior lateral (VPL) thalamic microstimulation," *IEEE Transactions on Neural Systems and Rehabilitation Engineering*, 20(2):161–169, 2012.

28. Y. Karahan*, B. Riaz*, and A. J. Brockmeier "Kernel landmarks: An empirical statistical approach to detect covariate shift", *Workshop on Distribution Shifts, 35th Conference on Neural Information Processing Systems (NeurIPS 2021)*.

27. A. J. Brockmeier, C. C. Claros Olivares*, M. S. Emigh, and L. G. Sanchez Giraldo "Identifying the instances associated with distribution shifts using the max-sliced Bures divergence", *Workshop on Distribution Shifts, 35th Conference on Neural Information Processing Systems (NeurIPS 2021)*.

26. H. Baker* and A. J. Brockmeier, "Exploring latent networks in resting-state fMRI using voxel-to-voxel causal modeling feature selection", *Machine Learning for Health (ML4H) - Extended Abstract* , 2021.

25. K. Holton*, S. Y. Chan, A. J. Brockmeier, D. Öngür, and M-H. Hall "Exploring the influences of functional connectivity architecture on cortical thickness networks in patients with early psychosis", *Machine Learning for Health (ML4H) - Extended Abstract* , 2021.

24. C. H. Mendoza-Cardenas* and A. J. Brockmeier, "Shift-invariant waveform learning on epileptic ECoG", *IEEE Engineering in Medicine and Biology Society (EMBC)* , 2021.

23. C. H. Mendoza-Cardenas* and A. J. Brockmeier, "Searching for waveforms on spatially-filtered epileptic ECoG", *Int. IEEE/EMBS Conf. Neural Engineering (NER)*, 2021.

22. H. Baker* and A. J. Brockmeier, "Local and sparse linear causal models for fMRI resting-state signals", *Int. IEEE/EMBS Conf. Neural Engineering (NER)*, 2021.

Conference papers based on work prior to joining University of Delaware

21. X. Evangelopoulos, A. J. Brockmeier, T. Mu, and J. Y. Goulermas, "A graduated non-convexity relaxation for large scale seriation," in *SIAM Int. Conf. Data Mining (SDM)*, 2017.

20. M. Sato, A. J. Brockmeier, G. Kontonatsios, T. Mu, J. Y. Goulermas, J. Tsujii, and S. Ananiadou, "Distributed document and phrase co-embeddings for descriptive clustering," in *European Chapter of the Association for Computational Linguistics (EACL)*, 2017.

19. A. J. Brockmeier and J. C. Principe, "Explicit versus implicit source estimation for blind multiple input single output system identification," in *IEEE Int. Conf. Acoustics, Speech and Signal Processing (ICASSP)*, 2015.

18. E. Santana, A. J. Brockmeier, and J. C. Principe, "Joint optimization of algorithmic suites for EEG analysis," in *IEEE Engineering in Medicine and Biology Society (EMBC)*, 2014.

17. A. J. Brockmeier, E. Santanna, L. Sanchez Giraldo, and J. Principe, "Projentropy: Using entropy to optimize spatial projections," in *IEEE Int. Conf. Acoustics, Speech and Signal Processing (ICASSP)*, 2014.

16. A. J. Brockmeier, L. G. Giraldo, J. S. Choi, J. T. Francis, and J. C. Principe, "Learning multiscale neural metrics via entropy minimization," in *Int. IEEE/EMBS Conf. Neural Engineering (NER)*, 2013.

15. A. J. Brockmeier, L. G. Sanchez Giraldo, M. S. Emigh, J. Bae, J. S. Choi, J. T. Francis, and J. C. Principe, "Information-theoretic metric learning: 2–D linear projections of neural data for visualization," in *IEEE Engineering in Medicine and Biology Society (EMBC)*, 2013.

14. A. J. Brockmeier, J. C. Principe, A. H. Phan, and A. Cichocki, "A greedy algorithm for model selection of tensor decompositions," in *IEEE Int. Conf. Acoustics, Speech and Signal Processing (ICASSP)*, 2013.

13. A.-H. Phan, A. Cichocki, P. Tichavsky, G. Luta, and A. Brockmeier, "Tensor completion through multiple Kronecker product decomposition," in *IEEE Int. Conf. Acoustics, Speech and Signal Processing (ICASSP)*, 2013.

12. A. J. Brockmeier, M. K. Hazrati, W. J. Freeman, and J. C. Principe, "Locating spatial patterns of waveforms during sensory perception in scalp EEG," in *IEEE Engineering in Medicine and Biology Society (EMBC)*, 2012.

11. A. J. Brockmeier, J. S. Choi, M. M. Emigh, J. T. Francis, and J. C. Principe, "Subspace matching thalamic microstimulation to tactile evoked potentials in rat somatosensory cortex," in *IEEE Engineering in Medicine and Biology Society (EMBC)*, 2012.

10. B. H. Fadlallah, A. J. Brockmeier, S. Seth, L. Li, A. Keil, and J. C. Príncipe, "An association framework to analyze dependence structure in time series," in *IEEE Engineering in Medicine and Biology Society (EMBC)*, 2012.

9. A. J. Brockmeier, B. Mahmoudi, J. C. Sanchez, and J. C. Principe, "Efficient temporal decomposition of local field potentials," in *IEEE Int. Work. Machine Learning for Signal Processing (MLSP)*, 2011.

8. A. J. Brockmeier, J. S. Choi, M. M. DiStasio, J. T. Francis, and J. C. Principe, "Optimizing microstimulation using a reinforcement learning framework," in *IEEE Engineering in Medicine and Biology Society (EMBC)*, 2011.

7. S. Craciun, A. J. Brockmeier, A. D. George, H. Lam, and J. C. Principe, "An information-theoretic approach to motor action decoding with a reconfigurable parallel architecture," in *IEEE Engineering in Medicine and Biology Society (EMBC)*, 2011.

6. S. Seth, A. J. Brockmeier, J. S. Choi, M. Semework, J. T. Francis, and J. C. Principe, "Evaluating dependence in spike train metric spaces," in *Int. Joint Conf. Neural Networks (IJCNN)*, 2011.

5. S. Seth, A. J. Brockmeier, and J. C. Principe, "A metric approach toward point process divergence," in *IEEE Int. Conf. Acoustics, Speech and Signal Processing (ICASSP)*, 2011.

4. A. J. Brockmeier, E. G. Kriminger, J. C. Sanchez, and J. C. Principe, "Latent state visualization of neural firing rates," in *Int. IEEE/EMBS Conf. Neural Engineering (NER)*, 2011.

3. L. Li, A. Brockmeier, J. T. Francis, J. C. Sanchez, and J. C. Principe, "An adaptive inverse controller for online somatosensory microstimulation optimization," in *Int. IEEE/EMBS Conf. Neural Engineering (NER)*, 2011.

2. S. Seth, I. Park, A. Brockmeier, M. Semework, J. Choi, J. Francis, and J. Principe, "A novel family of non-parametric cumulative based divergences for point processes," in *Advances in Neural Information Processing Systems (NIPS)*, 2010.

1. A. J. Brockmeier, I. Park, B. Mahmoudi, J. C. Sanchez, and J. C. Principe, "Spatio-temporal clustering of firing rates for neural state estimation," in *IEEE Engineering in Medicine and Biology Society (EMBC)*, 2010.

OPEN PEER REVIEWED MANUSCRIPTS (⋆ INDICATES ADVISEE)

A. J. Brockmeier, Y. Karahan⋆, C. C. Claros⋆, C. H. Mendoza-Cardenas⋆, M. S. Emigh, and L. G. Sanchez Giraldo, "Max-sliced Bures Distance for Interpreting Discrepancies," https://openreview.net/forum?id=D2Fp_qheYu, 2021.

P. Zingo, A. Brockmeier, A. Novocin, "Transfusion: Reproducibility Study and Analysis," Submitted to *NeurIPS 2019 Reproducibility Challenge*, https://openreview.net/forum?id=3EGF5it-1K, 2020.

ABSTRACTS

6. K. Holton⋆, S. Y. Chan, A. J. Brockmeier, D. Öngür, and M-H. Hall "Exploring the influences of functional connectivity architecture on cortical thickness networks in patients with early psychosis", *60th Annual Meeting of the American College of Neuropsychopharmacology*, San Juan, Puerto Rico, 12/2021.

5. K. Nolan, S. Ananiadou, P. Przybyła, A. J. Brockmeier, "RobotAnalyst: An online system to support citation screening in evidence reviewing," at *Global Evidence Summit*, Cape Town, South Africa, 9/2017.

4. S. Dura-Bernal, K. Li, A. J. Brockmeier, C. C. Kerr, S. A. Neymotin, J. C. Principe, J. T. Francis, and W. W. Lytton, "Modulation of virtual arm trajectories via microstimulation in a spiking model of sensorimotor cortex," at *23rd Ann. Computational Neuroscience Meeting: CNS*2014*, Québec City, Canada, 7/2014.

3. E. Kriminger, A. Brockmeier, L. Sanchez-Giraldo, and J. Principe. "Metric learning for invariant feature generation in reinforcement learning," at *Reinforcement Learning and Decision Making*, Princeton, New Jersey, 10/2013.

2. J. S. Choi, A. J. Brockmeier, M. Emigh, L. von Kraus, and J. T. Francis. "Optimizing multi-channel microstimulation pulse trains with a model-predictive controller," at *23rd Ann. Meeting of the Society for the Neural Control of Movement*, San Juan, Puerto Rico, 4/2013.

1. E. K. Anderson, A. J. Brockmeier, N. G. Reyero, D. S. Barber, and N. D. Denslow. "Developing and validating a novel method for selecting class-specific biomarkers in ecotoxicology: A case study using fathead minnow microarray data," at *31st Ann. National SETAC Conf.*, Portland, Oregon, 11/2010.

INVITED
TALKS/PANELS

3. Session Chair, "DARWIN for Physics, Engineering, and Computer Science," *DARWIN Computing Symposium*, University of Delaware Data Science Institute, 2/12/2021.

2. "Mini Report by a JSPS Alumnus," *Japan Society for Promotion of Science (JSPS) Fellowship Info Session*, University of Delaware's Institute for Global Studies; Office of International Students & Scholars, Newark, Delaware, 11/21/2019.

1. Panelist, "Breakout session: Data science and precision medicine," *2019 Delaware IDeAs Symposium*, Newark, Delaware, 11/7/2019.

BOOK
CHAPTER

A. J. Brockmeier and J. C. Príncipe, "Decoding algorithms for brain machine interfaces," in *Neural Engineering*, Bin He, Ed. Springer, 2013, pp. 223–257.

PATENT

U.S. Patent 10,531,806. J. Principe and A. J. Brockmeier, "Brain state advisory system and methods using calibrated metrics and optimal time-series decomposition," 1/14/2020.