

BRIAN R. SNIDER

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ACADEMIC POSITIONS

George Fox University

Assistant Professor, Department of Electrical Engineering & Computer Science, 2016–present.

Adjunct Instructor, Department of Electrical Engineering & Computer Science, 2015–2016.

Oregon Health & Science University

Graduate Research Assistant, Computer Science & Electrical Engineering Program, 2011–present.

Senior Research Assistant, Department of Behavioral Neuroscience, 2011-2013.

Graduate Teaching Assistant, Department of Medical Informatics & Clinical Epidemiology, 2011.

INDUSTRY POSITIONS

Chief Engineer, BioSpeech Inc., 2015–2017.

Data Warehouse Architect, George Fox University, 2015.

Senior Software Engineer, BioSpeech Inc., 2012–2015.

Production Engineer, Huron Consulting Group, 2008–2010.

Software and Systems Consultant, Various, 1997–2008.

EDUCATION

Ph. D. Computer Science & Engineering, Oregon Health & Science University, 2018 (expected).

Dissertation Title: “Sleep Signal Processing for Disordered Breathing Event Detection and Severity Estimation.”

Advisor: Alexander Kain, Ph. D.

Committee: Xubo Song, Ph. D.; Jill Dolata, Ph. D.; Chad Hagen, M. D.

B. S. Computer & Information Science: Computer Science, George Fox University, 2008.

RESEARCH INTERESTS

Machine Learning, Biomedical Engineering, Biological Signal Processing

PEER-REVIEWED PUBLICATIONS

ROHWEDDER, D. and SNIDER, B. R. (accepted July 2018). “Plagiarism Detection Avoidance Methods and Countermeasures.” To appear: *Proceedings of the 2018 CCSC-NW Regional Conference*.

SNIDER, B. R. and KAIN, A. (2017). “Estimation Of Localized Ideal Oximetry Sensor Lag Via Oxygen Desaturation–Disordered Breathing Event Cross-Correlation.” *SLEEP: Journal of Sleep and Sleep Disorders Research*. 40, A232.

- SNIDER, B. R. and KAIN, A. (2016). "Classification of Respiratory Effort and Disordered Breathing During Sleep from Audio and Pulse Oximetry Signals." *Proceedings of The 44th IEEE International Conference on Acoustics, Speech, and Signal Processing*. 13, 588–602.
- SNIDER, B. R. and KAIN, A. (2013). "Automatic Classification of Breathing Sounds During Sleep." *Proceedings of The 38th IEEE International Conference on Acoustics, Speech, and Signal Processing*. 5, 531–554.

OTHER PUBLICATIONS

- SNIDER, B. R. and KAIN, A. (2012). "Adaptive Reduction of Additive Noise from Sleep Breathing Sounds." *Oregon Health & Science University*. Technical Report CSLU-2012-001.
- SNIDER, B. R. (2009). "Core Developments on the Computing Front." *George Fox University Undergraduate Academic Journal*. 2, 70–75.

MANUSCRIPTS IN PREPARATION

- SNIDER, B. R. "Sleep Signal Processing for Disordered Breathing Event Detection and Severity Estimation." Oregon Health & Science University, Ph. D. dissertation.
- SNIDER, B. R. and KAIN, A. "Automatic Rule-Based Polysomnography Event Scoring." *SLEEP: Journal of Sleep and Sleep Disorders Research*.

GRANTS & RESEARCH SUPPORT

- National Institutes of Health (2017), PI: Connors, P. A. (BioSpeech).
4R44DC015145-02: "Prosody Assessment Toolbox" (\$705,641).
- Oregon Science & Health University (2016), OHSU GSO Travel Grant (\$400).
- National Science Foundation (2016), NSF Travel Grant (\$500).
- National Institutes of Health (2016–2017), PI: Connors, P. A. (BioSpeech).
1R44DC015145-01: "Prosody Assessment Toolbox" (\$224,044).
- Oregon Clinical and Translational Research Institute (2015–2016), PI: Hill, A. P. (OHSU).
5-UL1-TR000128-10: "An Automated, Multi-modal Tool for Quantifying the Autism Phenotype" (\$75,000).
- National Institutes of Health (2013–2016), PI: Snider, B. R. (BioSpeech).
1R43DA037588-01A1: "Screening for Sleep Disordered Breathing with Minimally Obtrusive Sensors" (\$234,295).
- National Institutes of Health (2012–2015), PI: Connors, P. A. (BioSpeech).
5R44DC009515-03: "Computer-Based Auditory Skill-Building Program for Aural Rehabilitation" (\$463,990).
- National Institutes of Health (2012–2013), PI: Mello, C. V. (OHSU).
5R24GM092842-03: "A Gene Expression Brain Atlas of the Zebra Finch" (\$385,000).
- National Institutes of Health (2011–2013), PI: Connors, P. A. (BioSpeech).
1R43DC011706-01: "Computerized System for Phonemic Awareness Intervention" (\$216,403).

PRESENTATIONS & INVITED TALKS

- Oregon Health & Science University, Ph. D. dissertation defense (2018, planned). "Sleep Signal Processing for Disordered Breathing Event Detection and Severity Estimation."
- Oregon Academy of Science, Annual Meeting (2018). "A Deep Neural Network-Based Predictive Model of Undergraduate Student Retention."
- George Fox University, Science & Religion Club (2017). "Artificial Intelligence: A Gentle Introduction to the Singularity."

Oregon Health & Science University, Ph. D. thesis proposal (2017). “Sleep Signal Processing for Disordered Breathing Event Detection and Severity Estimation.”

Meeting of Associated Professional Sleep Societies, Boston, Massachusetts (2017). “Estimation of Localized Oximetry Sensor Lag Via Oxygen Desaturation–Disordered Breathing Event Cross-Correlation.”

IEEE International Conference on Acoustics, Speech, and Signal Processing, Shanghai, China (2016). “Classification of Respiratory Effort and Disordered Breathing During Sleep from Audio and Pulse Oximetry Signals.”

Oregon Health & Science University, CSLU Seminar (2014). “Feature Analysis of Polysomnography Signals.”

Oregon Health & Science University, CSLU Seminar (2014). “Statistical Analysis of Clinical Polysomnography.”

IEEE International Conference on Acoustics, Speech and Signal Processing, Vancouver, British Columbia, Canada (2013). “Automatic Classification of Breathing Sounds During Sleep.”

Oregon Health & Science University, Ph. D. qualifying examination (2013). “Minimally-Obtrusive Respiratory Cycle Tracking for Assessing Sleep-Disordered Breathing Severity.”

Oregon Health & Science University, CSLU Seminar (2012). “Tracking Breathing During Sleep.”

Oregon Health & Science University, CSLU Seminar (2011). “Prediction of Sleep Breathing States From Acoustic Signals Using Hidden Markov Models.”

PROFESSIONAL ACTIVITIES & SERVICE

George Fox University

Undergraduate Curriculum Committee, 2017–present.

Strategic Design Team 3: Student Retention and Career Placement, 2017–present.

Consortium for Computing Sciences in Colleges

Papers Chair, CCSC-NW 2018 Program Committee, 2017–present.

Associate Membership Secretary, CCSC National Board, 2016–present.

Paper Reviewer, CCSC-NW Regional Conference, 2016–present.

Student Posters Chair, CCSC-NW 2016 Program Committee, 2015–2016.

Memberships

Association for Computing Machinery (ACM), 2016–present.

ACM Special Interest Group on Computer Science Education (SIGCSE), 2016–present.

Consortium for Computing Sciences in Colleges (CCSC), 2015–present.

Institute of Electrical and Electronics Engineers (IEEE), 2016–present.

ADVISING

George Fox University: Richter Scholars

Daniel Rohwedder, Plagiarism Detection Avoidance Methods and Countermeasures, 2018.

Thomas Noel, Deep Learning for Brain–Computer Interface-Based Prosthesis Control, 2018.

Taylor Dawson, Deep Neural Network-Based Predictive Model of Undergraduate Student Retention, 2017.

TEACHING

George Fox University

CSIS 201 Introduction to Computer Science I
CSIS 202 Introduction to Computer Science II
CSIS 304 Web-Based Programming
CSIS 314 Client–Server Systems
CSIS 321 Software Engineering
CSIS 330 Human–Computer Interactions
CSIS 370 Object-Oriented Analysis & Design
CSIS 440 Artificial Intelligence
CSIS 475 Field Experience
CSIS 485 Big Data & Analytics
CSIS 495 Computational Modeling
CSIS 490 Applied Software Development
CSIS 495 Educational Software, Solutions, & Methods
CSIS 495 Machine Learning
ENGR 481 Senior Design I
ENGR 482 Senior Design II

Oregon Health & Science University

BMI 540/640 Computer Science with Java Programming (graduate teaching assistant)

HONORS & AWARDS

George Fox University

Undergraduate Faculty Achievement Award for Teaching (nomination only), 2018.

Oregon Health & Science University

Exemplary Future Scientist Award (nomination only), OHSU Graduate Student Organization, 2016.

Mentor Award Certificate of Recognition, OHSU All-Hill Student Council, 2016.

Huron Consulting Group

Innovation Award, 2009.

Associate of the Quarter, 2008.

United States Marine Corps

Honorable Discharge, 2003.

Iraq Campaign Medal, 9th Communication Battalion, 2003.

Navy and Marine Corps Achievement Medal (gold star in lieu of 2nd award), 9th Communication Battalion, 2003.

Sea Service Deployment Ribbon (bronze star in lieu of 2nd award), 9th Communication Battalion, 2003.

Global War on Terrorism Expeditionary Medal, Command Element, 11th Marine Expeditionary Unit, 2003.
Humanitarian Service Medal, Command Element, 11th Marine Expeditionary Unit, 2002.
Presidential Unit Citation, Command Element, 11th Marine Expeditionary Unit, 2002.
Meritorious Unit Commendation, Command Element, 11th Marine Expeditionary Unit, 2002.
Navy and Marine Corps Achievement Medal, Command Element, 11th Marine Expeditionary Unit, 2002.
Certificate of Commendation, Command Element, 11th Marine Expeditionary Unit, 2002.
Sea Service Deployment Ribbon, Command Element, 11th Marine Expeditionary Unit, 2002.
National Defense Service Medal, Command Element, 11th Marine Expeditionary Unit, 2002.
Meritorious Promotion to Corporal, Command Element, 11th Marine Expeditionary Unit, 2001.
Marine Corps Association Certificate of Achievement, Marine Corps Communications-Electronics School, 2001.
Meritorious Mast, Marine Combat Training Battalion, School of Infantry, 2001.