Dante J. Smith, PhD

Lincoln, NE | (978) 886-5532 | djsmith@bu.edu | github.com/djsmith17

Engineer and computational neuroscientist with 8-years of experience in biosensor analysis, signal processing, experimental design, and data analysis techniques. I am a creative problem solver who is committed to addressing real world problems with technology, teamwork, and scientific rigor.

Work Experience

Neuraville

Computational Neuroscientist II Jan 2022 – Present

- Developing neural network models of human cognitive function
- Applying neural networks to robotic platforms to drive neuro-inspired behavior and learning.

Linus Health

Data Consultant Feb 2021 – Aug 2021

- Part of a team organizing unstructured customer data to be used in a recommendation engine
- Provided scientific context for product feature development
- Configured, populated, and managed a non-relational database using MongoDB and AWS
- Published the analytics team's Confluence pages to define our organization's ground truths

Boston University Speech Lab Sept 2012 – Jan 2020

Speech Lab Graduate Research Fellow

- Managed full data cycle of an experimental paradigm to uncover details about human health
- Designed and manufactured wearable sensors to measure protocol effects
- Developed biosensor algorithms to measure changes in human speech during experimentation
- Performed data modelling and visualizations in MATLAB to identify experiment outcomes
- Delivered public presentations on our findings to academic and non-academic audiences
- Collaborated with medical professionals to achieve study results

Boston University Neural Prosthesis Lab Mar 2011 – Sept 2015

Neural Prosthesis Lab Graduate Research Fellow

- Developed experimental protocol to test augmentative communication technology
- Developed biosensor algorithms to classify brain rhythms as intent of the participant
- Performed statistical analysis of recorded data to assess the effectiveness of our methods
- Delivered public presentations on our findings to academic and non-academic audiences

Skills

Tools: Python, MATLAB, SQL, SKLearn, Git, R, Agile
Software: Jira, Confluence, Bitbucket, AWS, S3, MongoDB, Tableau, PowerBI, Gsuite
Data Analytics: Time-series analysis, Signal Processing, Machine Learning, Neural Networks
Biosensors: EEG, EOG, Microphones, Accelerometers

Education

Doctor of Philosophy in Computational Neuroscience, Boston University 2020
Bachelor of Science in Biomedical Engineering, Boston University 2012

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Awards

2017 – Graduate Medical Sciences Travel Award
2015 – NIH Research Supplement to Promote Diversity in Health-Related Research (R01DC002852)
2015 – Henry I. Russek Student Achievement Day Award
2014 – CompNet Travel Award
2013 – Computational Neuroscience Fellowship (2 years)
2008 – Eagle Scout Award

Publications

- **Smith, D.J**., Stepp, C.E., Guenther, F. H., & Kearney, E. "Contributions of Auditory and Somatosensory Feedback to Voice Motor Control", *Journal of Speech, Language and Hearing Research* (2020). DOI: 10.1044/2020_JSLHR-19-00296
- Masapollo, M., **Smith, D.J**. & Guenther, F.H. (*in review*). "On the nature of working memory structures in speech sequence assembly."
- Kearney, E., **Smith, D.J.**, Stepp, C.E., Guenther, F.H., "Auditory and Somatosensory Feedback Control in Voice Production", Conference on Motor Speech, 2020, Santa Barbara, CA. [poster presentation]
- Masapollo, M., **Smith, D.J**., Guenther, F.H., "On the nature of working memory structures in phonological encoding", 178th Meeting of the Acoustical Society of America, 2019, San Diego, CA. [poster presentation]
- Masapollo, M., **Smith, D.J.,** Guenther, F.H. "On the nature of working memory structures in speech sequencing", Boston Speech Motor Control Symposium, 2019, Boston, MA. [poster presentation]
- Segawa, J.A., Masapollo, M., Tong M., **Smith, D.J.**, Guenther, F.H. "Chunking of phonological units in speech sequencing", *Brain and Language, 195*(May). 2019.
- **Smith, D.J.,** Salazar-Gomez, A.F., Stepp, C.E., Guenther, F.H. "Somatosensory-based Compensation to Mechanical Perturbations of the Larynx during Speech", Society for Neuroscience, November 11, 2017, Washington D.C. [poster presentation]
- **Smith, D.J**., Stepp, C.E., Guenther, F.H. "Effects of Attention on Evoked Potentials for Brain Computer Interface Control", Graduate Research Symposium, April 11, 2016, Boston MA. [poster presentation]
- **Smith, D.J**., Stepp, C.E., Guenther, F.H. "Effects of Attention on Evoked Potentials for Brain Computer Interface Control", Neural Processing in Humans, Animals and Machines Conference, June 10-12, 2015, Boston MA. [poster presentation]
- **Smith, D.J**., Stepp, C.E., Guenther, F.H. "Effects of Attention on Evoked Potentials for Brain Computer Interface Control", inter-Science of Learning Centers Conference, May 31-June 2, 2015, San Diego CA. [poster presentation]
- **Smith, D.J**., Varghese, L.A., Stepp, C.E., Guenther, F.H. "Comparison of Steady-State Visual and Somatosensory Evoked Potentials for Brain-Computer Interface Control", Proceedings of the 36th Annual International Conference of the IEEE Engineering in Medicine and Biology Society, 26-30 August, 2014