

David A. Nicholson  
nicholdav@gmail.com, (813)233-6553  
<https://github.com/NickleDave>

### **Skills Summary**

- Artificial intelligence, machine learning, data science and software engineering in Python: 2+ years
- Data exploration, analysis, statistics, and visualization in MATLAB: 6+ years
- Project management, technical communication: 8+ years

### **Experience**

**Sober Lab**, Emory University, Atlanta, GA

*March 2011-present*

- Developed Python library to automate analyses in the lab using machine learning and neural networks (<https://github.com/NickleDave/hybrid-vocal-classifier>, see also publications)
- Performed analyses of audio data with Matlab, some GUI design
- Designed, carried out, and published experiments that identified novel connections between brain areas that control vocalization in a songbird: <https://www.biorxiv.org/content/early/2017/10/02/197590>

### **Relevant publications**

D.A. Nicholson. A Comparison of Machine Learning Algorithms Applied to Birdsong Elements. Proceedings of the 15<sup>th</sup> Python in Science Conference. [http://www.nicholdav.info/static/Nicholson\\_SciPY2016.pdf](http://www.nicholdav.info/static/Nicholson_SciPY2016.pdf)

### **Relevant presentations**

D.A. Nicholson, Y.Cohen. "Neural networks for segmentation of vocalizations". Oral presentation at PyData NYC conference; November 2017; New York City, NY. <https://youtu.be/1XEDFpUGmqs>

D.A. Nicholson. "Hybrid Vocal Classifier: a Python Package to Automate Labeling of Birdsong" Oral presentation at: SciPy 2017 conference; August 2017; Austin, TX. Video: <https://youtu.be/BwNeVNou9-s>

**Organizer**, Atlanta BEST data science club and short course

*August 2017-Present*

- Organize monthly meetings and Github organization, invite speakers
  - Designed and taught eight week short course on data science and scientific computing, sponsored by the [Atlanta BEST program](#), for sixty graduate students and post-doctoral fellows from Emory, Georgia Tech, and GSU: <https://github.com/NickleDave/BEST-data-science-short-course>
- Lighting talk about course: <https://youtu.be/Xu0SCd58kYQ?t=29m39s>

**Organizer**, Open-Source Analysis Workshop in Atlanta

*April 2017*

- Organized day-long workshop for Atlanta scientists on using open-source tools for analysis: <https://nickledave.github.io/2017/03/23/open-source-analysis-in-neuro-atlanta.html>
- Designed and taught session at workshop on machine learning using Jupyter notebooks: <https://github.com/NickleDave/intro-ml-sklearn>

### **Education**

- Ph. D. in Neuroscience, Emory University, Atlanta, GA. August 2017.
- B.S. in Biology (Summa Cum Laude), University of South Florida, Tampa, FL. Minor in Spanish. May 2010.

### **Languages**

Spanish. Conversational level: fluent; written level: academic.