

Dillon Niederhut PhD

Data Scientist / Machine Learning Engineer

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Experience

- 2020–2021 **Founder**, *adversarial designs*, Austin.
- 2019–2021 **Data Scientist**, *Novi Labs*, Austin.
- 2016–2019 **Python Developer / Technical Instructor**, *Enthought Inc.*, Austin.
- 2015–2016 **Lead Python Developer / Statistical Consultant**, *D-Lab*, Berkeley.
- 2015 **Lecturer**, *University of California*, Berkeley.
- 2014 **Data Science Fellow**, *CDIPS*, Berkeley.
- 2011–2014 **NSF Graduate Research Fellow**, *University of California*, Berkeley.
- 2010–2011 **Statistical Consultant**, *Wolf Brown, LLC*, San Francisco.

Education

- 2016 **PhD**, *University of California*, Berkeley, *Anthropology*.
Performance Theory Approaches to Computational Text Analysis
- 2009 **BS**, *The College of William and Mary*, Williamsburg, *Neuroscience*.
Summa Cum Laude with additional Honors in Research

Funding

- 2015 **GPU applications in post-mortem neuroimaging**, *Hardware Donation Program*, NVIDIA.
- 2014–2015 **MRI microscopy of human motor neurons**, *Research Grant*, Leakey Foundation.
- 2014–2016 **MRI microscopy of human motor neurons**, *Research Grant*, National High Magnetic Field Lab.
- 2011–2014 **Neurological correlates of language ability**, *Graduate Research Fellowship*, National Science Foundation.
#DGE1106400

Products

Applications

wirepedia Socially constructed knowledge base

wirepedia.org

Software

niacin Data augmentation for machine learning
george-lucas Watch "A New Hope" in your terminal
tram Python objects with transactional memory

pypi.org/project/niacin
pypi.org/project/george-lucas
github.com/deniederhut/tram

Data

MODIS composite	Cloudless global surface reflectance at 2km	zenodo.org/record/1287840
Primate energetics	Daily energy use of 26 genera of primates	zenodo.org/record/33599

Activities

- 2021 **Co-organizer**, *The Austin Python Meetup*.
- 2017-2021 **Proceedings Co-chair**, *Python in Science Conferences (SciPy)*.
- 2017-2021 **Reviewer**, *The Journal of Open Source Software (JOSS)*.
- 2016-2019 **Reviewer**, *rOpenSci*.

References

Patents

J. Ramey, D. Niederhut, K. Crifasi, and K. Darnell. Predictive modeling of well performance using learning and time-series techniques, Pending.

Articles

I. Gupta, O. Samandarli, A. Burks, V. Jayaram, D. McMaster, D. Niederhut, and T. Cross. Autoregressive and Machine Learning Driven Production Forecasting - Midland Basin Case Study. American Association of Petroleum Geologists, 2021.

T. Cross, D. Niederhut, A. Cui, K. Sathaye, and J. Chaplin. Quantifying the Diminishing Impact of Completions Over Time Across the Bakken, Eagle Ford, and Wolfcamp Using a Multi-Target Machine Learning Model and SHAP Values. American Association of Petroleum Geologists, 2021.

K. Sathaye, T. Cross, K. Darnell, J. Reed, J. Ramey, and D. Niederhut. The Impact of Spacing and Time on Gas/Oil Ratio in the Permian Basin: A Multi-Target Machine Learning Approach. 2020.

K. Sathaye, T. Cross, K. Darnell, J. Reed, J. Ramey, and D. Niederhut. The Impact of Interwell Spacing Over Time A Machine Learning Approach. 2020.

D. Niederhut. niacin: A python package for text data enrichment. *Journal of Open Source Software*, 5(50):2136, 2020. <https://doi.org/10.21105/joss.02136>.

K. N. Darnell, K. Crifasi, G. Stotts, D. Tsang, V. Lavoie, T. Cross, D. Niederhut, A. Ramey, and K. Sathaye. Decomposition of Publicly Reported Combined Hydrocarbon Streams Using Machine Learning in the Montney and Duvernay. 2020.

T. Cross, K. Sathaye, K. Darnell, J. Ramey, K. Crifasi, and D. Niederhut. GeoSHAP: A Novel Method of Deriving Rock Quality Index from Machine Learning Models and Principal Components Analysis. 2020.

T. Cross, K. Sathaye, K. Darnell, D. Niederhut, and K. Crifasi. Predicting Water Production in the Williston Basin Using a Machine Learning Model. 2020.

T. Cross, K. Sathaye, K. Darnell, D. Niederhut, and K. Crifasi. Benchmarking Operator Performance in the Williston Basin using a Predictive Machine Learning Model. 2020.

T. Cross, J. Reed, K. Sathaye, K. Darnell, K. Crifasi, and D. Niederhut. Evaluating the Impact of Precision Targeting on Production in the Midland Basin Using Machine Learning Algorithms. 2020.

T. Cross, D. Niederhut, K. Sathaye, K. Darnell, and K. Crifasi. Deriving Time-Dependent Scaling Factors for Completions Parameters in the Williston Basin using a Multi-Target Machine Learning Model and Shapley Values. 2020.

D. Niederhut. Semantic bleaching not observed in synchronic test. In C. Cuskley, M. Flaherty, H. Little, L. McCrohon, A. Ravignani, and T. Verhoef, editors, *The Evolution of Language: Proceedings of the 12th International Conference*. NCU Press, 2018. <https://doi.org/10.12775/3991-1.082>.

Dillon Niederhut. Safe handling instructions for missing data. In Fatih Akici, David Lippa, Dillon Niederhut, and M. Pacer, editors, *Proceedings of the 17th Python in Science Conference*, pages 56 – 60, 2018. <https://doi.org/10.25080/Majora-4af1f417-008>.

D. Niederhut. Software transactional memory in pure python. In K. Huff, D. Lippa, D. Niederhut, and M. Pacer, editors, *Proceedings of the 16th Python in Science Conference*, pages 9–11, 2017. <https://doi.org/10.25080/shinma-7f4c6e7-002>.

D. Niederhut. Quantifying the semantic value of words. In S. Roberts, C. Clusky, L. McCrohon, L. Barcelo-Coblijn, O. Feher, and T. Verhoef, editors, *The Evolution of Language: Proceedings of the 11th international conference*. World Scientific, Hackensack, 2016.

D. Niederhut. The phonatory culture hypothesis. In E. Cartmill, S. Roberts, H. Lyn, and H. Cornish, editors, *The Evolution of Language: Proceedings of the 10th international conference*. World Scientific, Hackensack, 2014.

D. Niederhut. Beyond “neuroevidence”. In L. McCrohon, T. Verhoef, B. Thompson, and H. Yamauchi, editors, *The Past, Present, and Future of Evolution of Language Research*. World Scientific, Hackensack, 2014.

D. Niederhut. Gesture and the origin of language. In T. Scott-Phillips, M. Tamariz, E. Cartmill, and J. Hurford, editors, *The Evolution of Language: Proceedings of the 9th international conference*. World Scientific, Hackensack, 2012.

Edited Volumes

K. Huff, D. Lippa, D. Niederhut, and M. Pacer, editors. *Proceedings of the 16th Python in Science Conference*, 2017. <https://doi.org/10.25080/shinma-7f4c6e7-000>.

C. Calloway, D. Lippa, D. Niederhut, and D. Shupe, editors. *Proceedings of the 18th Python in Science Conference*, 2019. <https://doi.org/10.25080/Majora-7ddc1dd1-026>.

F. Akici, D. Lippa, D. Niederhut, and M. Pacer, editors. *Proceedings of the 17th Python in Science Conference*, 2018. <https://doi.org/10.25080/Majora-4af1f417-018>.

M. Agarwal, C. Calloway, D. Niederhut, and D. Shupe, editors. *Proceedings of the 20th Python in Science Conference*, 2021. [10.25080/majora-1b6fd038-02b](https://doi.org/10.25080/majora-1b6fd038-02b).

M. Agarwal, C. Calloway, D. Niederhut, and D. Shupe, editors. *Proceedings of the 19th Python in Science Conference*, 2020. <https://doi.org/10.25080/Majora-342d178e-02b>.