

ECNet: Large scale machine learning projects for fuel property prediction

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Summary

ECNet is an open source Python package for creating large scale machine learning projects with a focus on fuel property prediction. A project is considered a collection of builds, and each build is a collection of nodes. Nodes are averaged to obtain a final predicted value for the build. For each node in a build, multiple neural networks are constructed and the best performing neural network is used as that node's predictor.

ECNet aims to provide scientists with an open-source tool for predicting key fuel properties for the next generation of fuels, without having to spend resources on fuel synthesis and experimentation.

Project(s) using ECNet:

Kessler, Travis. 2017. "Artificial neural network based predictions of cetane number for furanic biofuel additives." DOI: 10.1016/j.fuel.2017.06.015

References

Kessler, Travis. 2017. "ECNet: Large scale machine learning projects for fuel property prediction." <https://github.com/TJKessler/ECNet>.

Kessler, Travis. 2017. "ECNet 1.2.4.dev1." <https://pypi.python.org/pypi/ecnet/1.2.4.dev1>.

Mack, John Hunter. 2017. "Energy and Combustion Research Laboratory." http://faculty.uml.edu/Hunter_Mack/.

Kessler, Travis. 2017. "Artificial neural network based predictions of cetane number for furanic biofuel additives." <https://doi.org/10.1016/j.fuel.2017.06.015>