



Winning Edge Technology Review

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Background

WinningEdge™ is a strategy optimization tool for online, low-stakes texas hold'em players.

The application will provide real time probabilities and suggest action based on an ML algorithm trained using historical data.



Technologies Considered



PyTorch

- Contains many pre-trained models
- Simple and transparent processing
- Very new and not well documented, not beginner friendly



TensorFlow

TensorFlow

- Useful for reinforcement learning
- Very large community and support
- Runs dramatically slower than other ML packages and algorithms



Scikit-learn

- Simple, easy-to-use, effective
- Extremely wide range of algorithms
- Made for simpler data analysis
- Not suited for deep learning



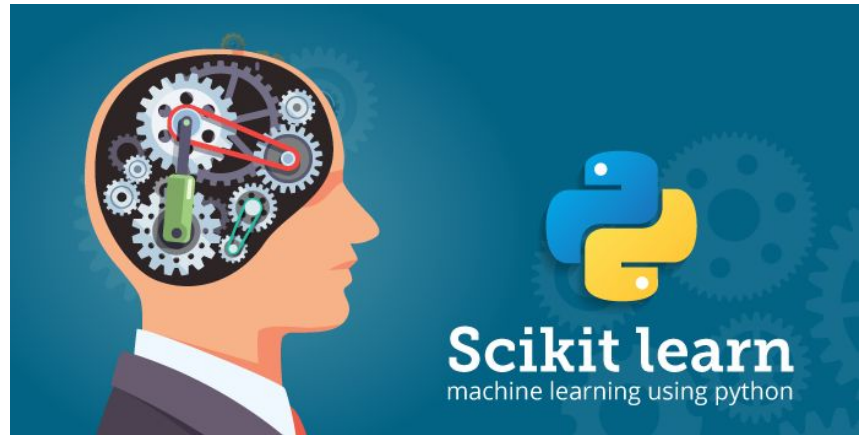
Our Choice

Simplicity and Efficiency: Scikit-learn provides a simple and easy-to-understand interface for building and evaluating machine learning models. It's suitable for simpler tasks without added complexity. Scikit-learn is also more computationally efficient.

Feature Extraction and Selection: Scikit-learn has tools for feature extraction and selection, which can be crucial for identifying relevant features in poker hands. It can help processing categorical data and focus on the most relevant aspects of the input that contribute to the task at hand.

Appeal

- Beginning friendly
- Simplicity, efficiency, compatibility
- Support for predictive analysis
- Well-documented, plenty of examples
- Seamless **integration with other Python packages** (e.g. NumPy, SciPy, Matplotlib)





Drawbacks

- Limited deep learning support
- Less flexibility for model customization
- Not ideal for extremely large datasets and high-performance model training



vs.

