HEAT
A DISTRIBUTED AND ACCELERATED TENSOR FRAMEWORK FOR DATA ANALYTICS AND MACHINE LEARNING
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BATTERIES INCLUDED
- Element-wise operations
- Advanced indexing, slicing and broadcasting
- Linear algebra subpackage
- Unsupervised machine learning
  - K-Means/-Medoids/-Means clustering
  - Spectral clustering
  - Self-organizing maps
- Supervised machine learning
  - Logistic/L1-LASSO-regression
  - k-nearest neighbors
  - Gaussian Naïve Bayes
- Neural networks
  - Data-parallel training (DASO)
  - State-of-the-art layers
  - PyTorch and ONNX compatible

DATA CRUNCHING IN THE WILD
- Study of paraffin-based hybrid rocket engine fuels
- Combustion tests at DLR Institute of Space Propulsion
  Super-high resolution video cameras
  10,000 frames/second
- Identification of combustion phases via unsupervised ML
- Parallel clustering algorithm implementations
- Production runs on high-performance supercomputer

FEEL THE HEAT

>>> pip install heat

>> git clone
https://github.com/helmholtz-analytics/heat.git

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