

Standard API for non-adaptive libraries

Adaptive libraries (BLAS, FFT, NN) continuously assembled from the most efficient routines (species) as plugins

Expose all features influencing optimizations

Data set and hardware features (\vec{f})

System state (\vec{s})

Requirements (\vec{r})

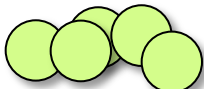
Predict most suitable solutions based on features, system state and requirements when enough knowledge is collected

Minimal set of optimized routines (winning species)

Check behavior (\vec{b})

Detect and record unexpected behavior, numerical instability and performance anomalies

Shared data sets



Shared most precise models



Most efficient species



Shared routines

Most efficient optimizations

Expose to the community to

- expose more optimizations
- add different algorithms
- find missing features
- improve predictive models
- add more data sets

Repositories with continuously optimized workloads and kernels