

Adaptive library continuously assembled from the top performing routines (species) as plugins

Standard BLAS API

Expose all features influencing optimizations

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

System state (\vec{s})

Requirements (\vec{r})

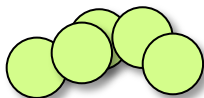
Predict most suitable solutions based on features, system state and requirements when enough knowledge is collected

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 models



Best performing species

Shared routines Top found optimizations

Expose to the community to

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

Public or private CK repository of optimization knowledge