

# X-TUNE Software Products

Product	Role	Available from
CHiLL, CUDA-CHiLL	Autotuning compiler technology	<a href="http://github.com/CtopCsUtahEdu/chill-dev">http://github.com/CtopCsUtahEdu/chill-dev</a>
Orio	Autotuning search space navigation	<a href="http://brnorris03.github.io/Orio">http://brnorris03.github.io/Orio</a>
Orio-CHiLL	Integrates CHiLL as an Orio module	<a href="http://github.com/brnorris03/Orio/tree/master/orio/module/chill">http://github.com/brnorris03/Orio/tree/master/orio/module/chill</a>
SURF	New search module in Orio	<a href="http://github.com/brnorris03/Orio/tree/master/orio/main/tuner/search/mlsearch">http://github.com/brnorris03/Orio/tree/master/orio/main/tuner/search/mlsearch</a>
TCR	Tensor contraction code generation and decision algorithm for GPUs	<a href="http://github.com/axelyamel/tcg-autotuning">http://github.com/axelyamel/tcg-autotuning</a>

Orio-CHiLL, TCR, SURF

Research Prototypes  
TRL 4-5

CHiLL, CUDA-CHiLL, Orio

Application Demonstrations  
TRL 5-6

# CHiLL and CUDA-CHiLL

## Applications and Users

### *Applications and mini-apps*

- miniGMG (LBNL)
- Nekbone, Nek5000 local\_grad3 (Argonne)
- NWCHEM node-level kernels (Argonne)
- QCD Milc kernel (Utah, **Indiana**)
- CPPTRAJ analysis code from AMBER (Utah)
- Gauss Seidel and Incomplete LU from PPCG (Intel)
- Sparse Matrix Multi-Vector from LOBPCG (LBNL)
- Stochastic Gradient Descent (Texas)
- MGDC (USC)
- PFLOTRAN (NC State)

### *External users*

- Ananta Tiwari (formerly Maryland, now SDSC)
- Nick Chaimov (Oregon)
- Sven Verdoolage (Leuven)
- Michelle Strout (Arizona)
- Tania Banerjee (Florida)