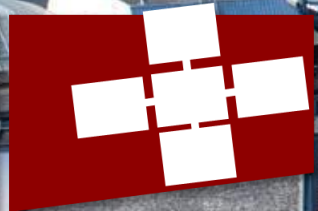


Alexandru Calotoiu

DaFIEEx



TVM

- **Specialized compiler framework for Machine Learning applications.**
 - Performance portable
 - Auto-TVM – autotuner for convolutional networks
- **General applicability?**
 - In general, the more assumptions on the contents of a code or its structure are made, the more powerful and aggressive the optimizations that become possible.
 - Examples of results on general codes?

Polyhedral analysis

- **Work in progress –**
 - Basic idea is that by analyzing dataflow dependencies using polyhedral analysis more parallelization opportunities can become available
 - Still too early for preliminary results to be available

Vectorization in DaCe

- **Vectorization is supported**

- Analyze generated code to verify absence/presence of vector instructions
- Source code here:

<https://github.com/spcl/dace/blob/master/dace/transformation/dataflow/vectorization.py>

- Deeper dive possible
- Code sample available for analysis?

C2DaCe

- **Progress on control flow transformation**
 - Uncovering and fixing bugs in DaCe
 - Break, continue, return testing

