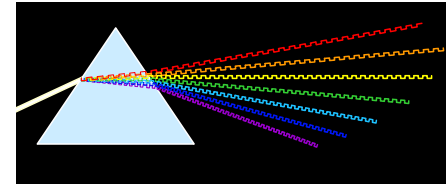


PRISM: Platform for Rapid Investigation of Efficient Scientific-computing & Machine-learning

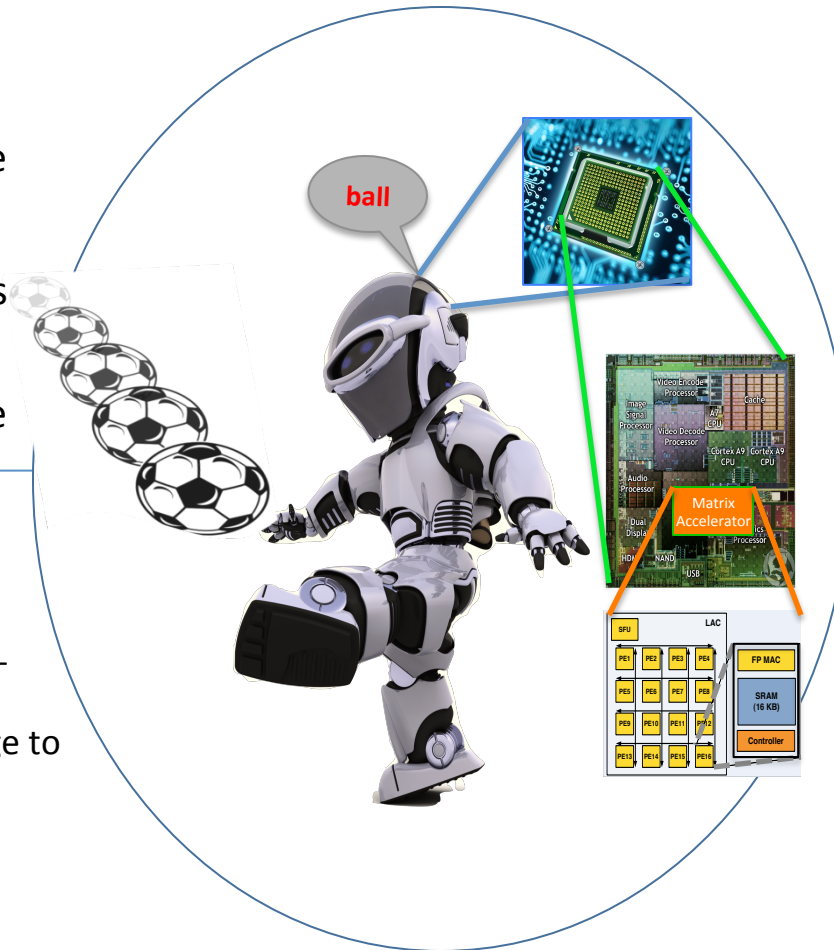


Challenge:

- Low-power cognitive systems require accelerated hardware
- PRISM provides a platform to study acceleration tradeoffs for wider set of operations on same accelerated hardware

Solution:

- Focus on compute intensive applications
- Use commonalities between the machine-learning applications
- Use domain knowledge to automate accelerator generation



Scientific Impact:

- Machine learning is critical for security
- Accelerated low-power machine learning routines on embedded devices
- Exposing the tradeoffs for energy consumption versus security measure complexity

Broader Impact:

- Better insight about the computation and communication intrinsic
- Algorithms for these applications that will be effective on conventional and new architectures
- Open-source software and IP cores
- Research for Graduate and Undergraduates