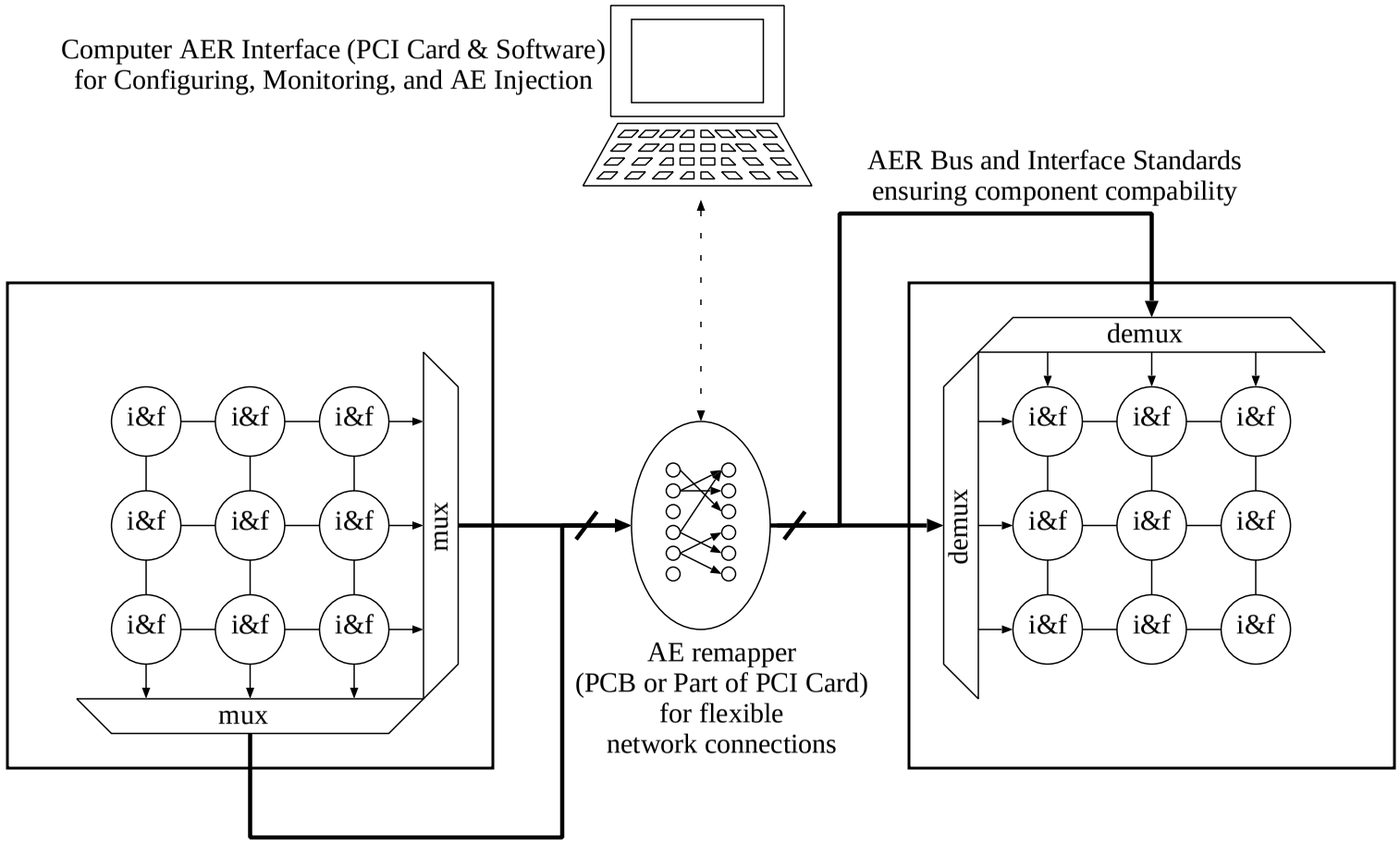
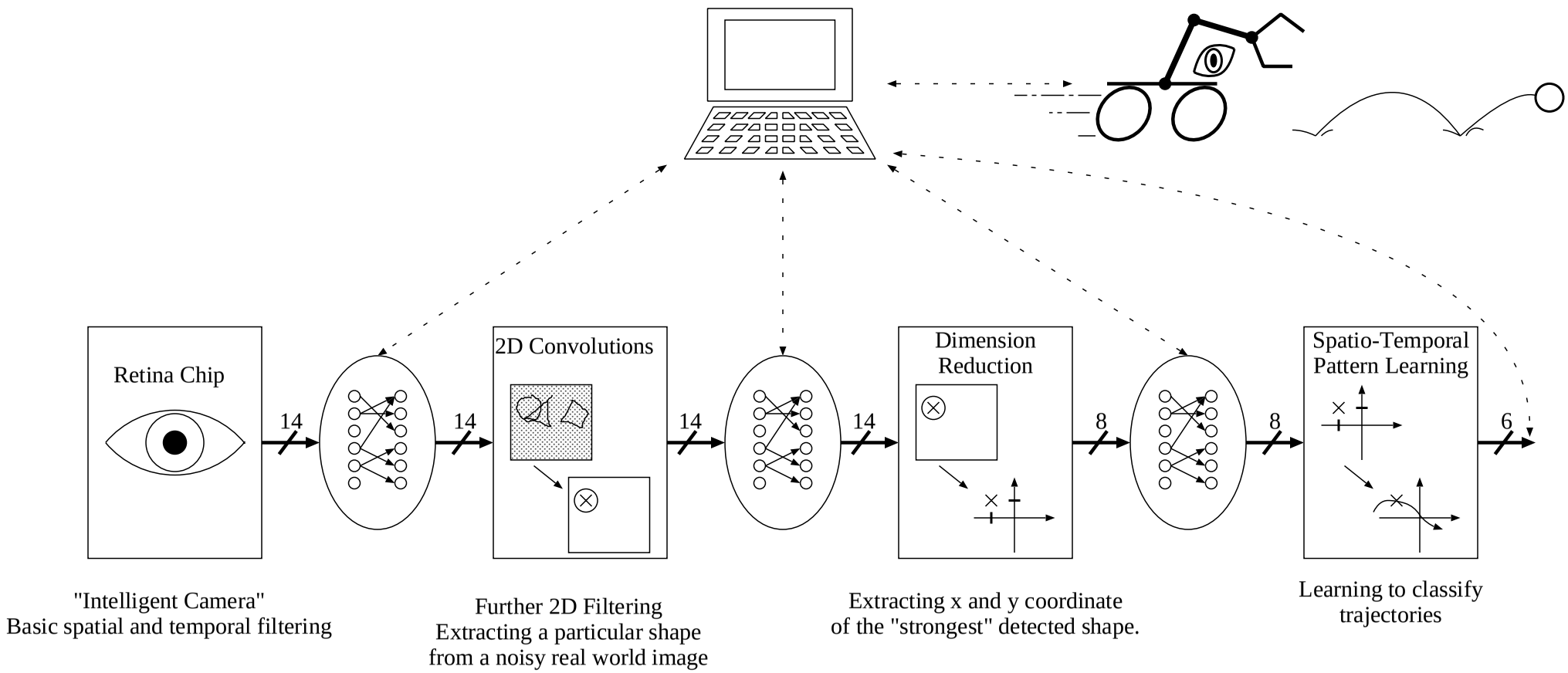
Objective 1: Easy to Use AER Communication Framework

Emulating Configurable Point-to-Point Pulse Signal Networks



Objective 2: Demonstrator; Bioinspired, Robust & Fast Ball Tracking

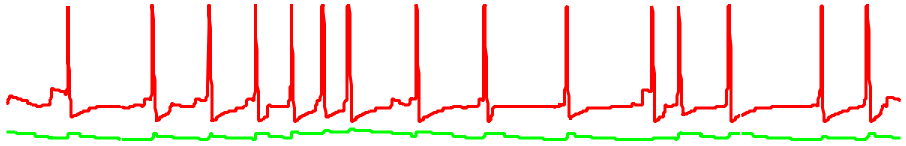


Expected Achievements and Impact

Objective 1:
A user-friendly AER communication framework will promote the exploitation of the potential of spike signal processing. It will open up one of the success strategies of the nervous system to electronics.

Objective 2:
A real-time image processing system capable of reliably detecting simple objects in real-world images and of learning to classify motion patterns. Potential applications are for instance automated car driving or surveillance systems. All system components can easily be reassembled and integrated into other systems.

Future Directions for Neuro-IT



Spike Signal Processing:
The nervous system uses asynchronous short pulses (spikes) for communication. How exactly information is encoded and processed with spike trains is a hot topic in brain research and will remain so for a while to come. Some models have been proposed and new ones are being developed. Electronic systems have only just begun to tap the potential of this kind of information encoding.