ViraEye: An Energy-Efficient Stereo Vision Accelerator with Binary Neural Network in 55 nm CMOS

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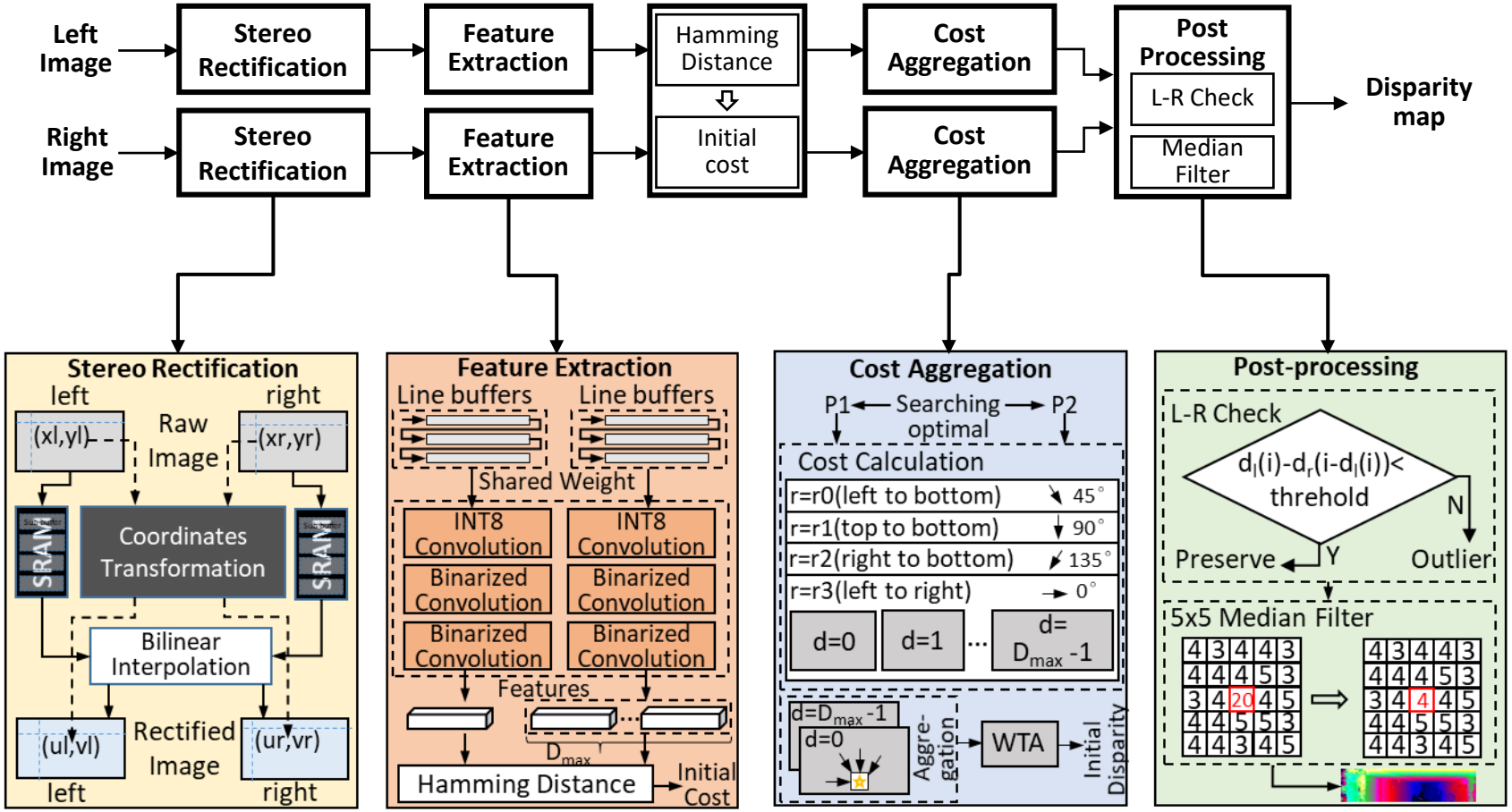
Challenges of Stereo Vision Accelerator

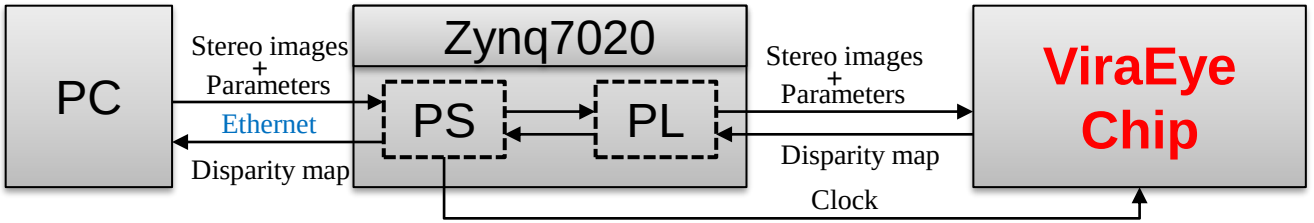
- **Handcrafted-based Methods**
  - **Fast, Hardware-friendly but Unreliable**
- **DNN-based Methods**
  - **Accurate but Compute-intensive, Power-hungry, Long execution latency**
- **Stereo rectification is missing**

How to make a trade-off between processing speed and accuracy?

Proposed ASIC Accelerator

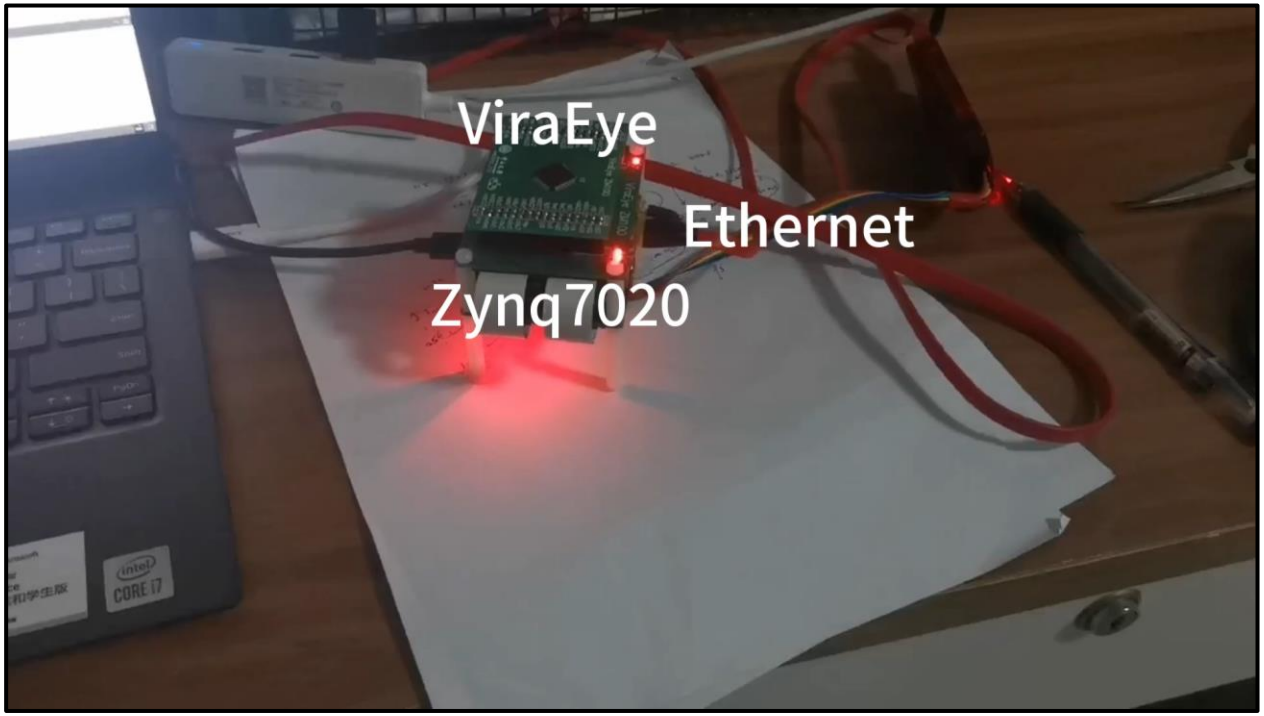


Test Platform



Data flow of the test platform

Demo



Thanks for your attention.