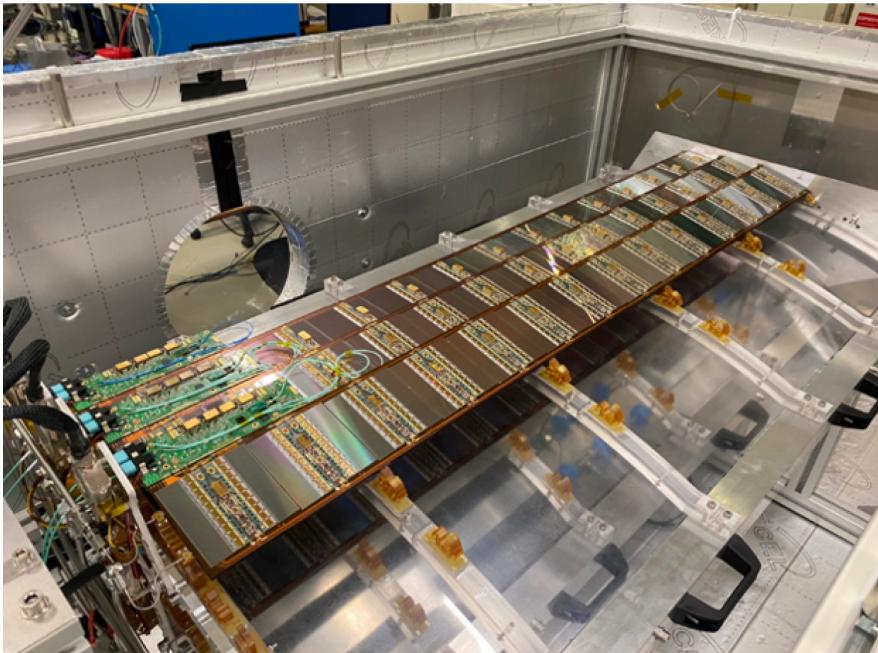
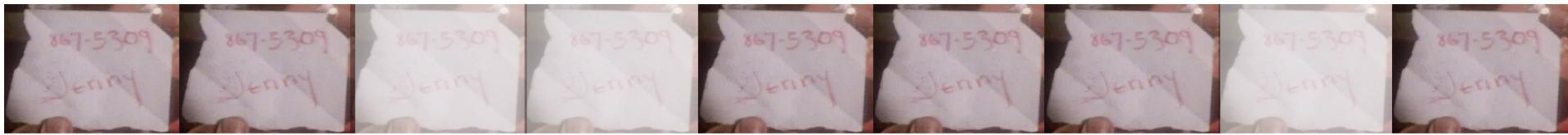
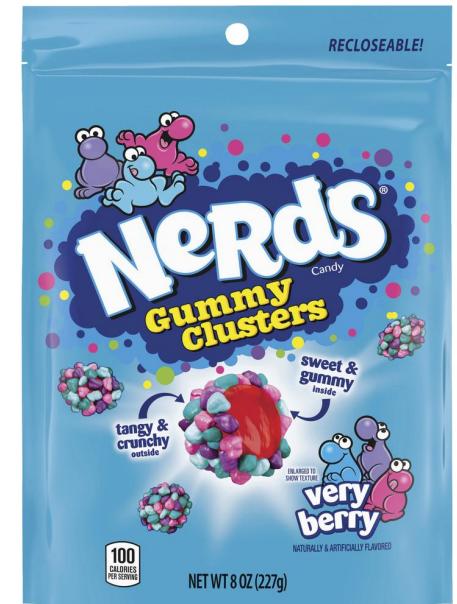


Strip clustering



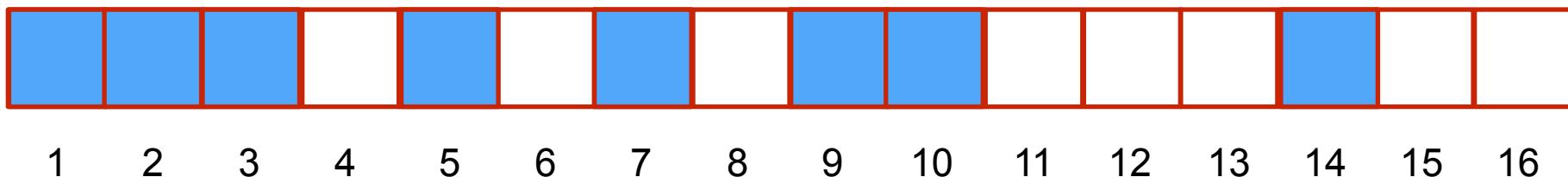
+



What you want to do!

- Your firmware is going to receive unclustered data from silicon strip detectors, and need to strip adjacent hits together!
- You can assume the data from each module arrives together, ordered by low module to high module, and in order from one side of the strip to the other
- To simplify things, there are 500 strip modules per event, and each module has 100 potential local hit positions (which are just 1 if a hit is there and nothing is sent if no hit is there)
- For each cluster, you want to return the module number, the “first” position of each cluster and its size
- Note: Simplified version of what Hayden’s HLS firmware does!

Module input 8675309



Want to return:

(8675309, 1,3), (8675309, 5,1), (8675309, 7,1), (8675309, 9,2),
(8675309, 14,1)

- Input data has two columns only:
 - Module followed by local hit position
 - What sorts of things can you pipeline?
 - How to minimize resources?
 - How do you know you reached the end of the event?