AWR1642BOOST Radar livestreamed to Gating Plot and Range-Doppler heatmap demo

What went well and what went wrong

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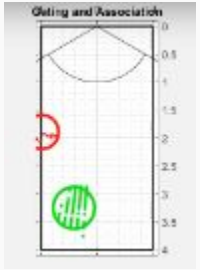
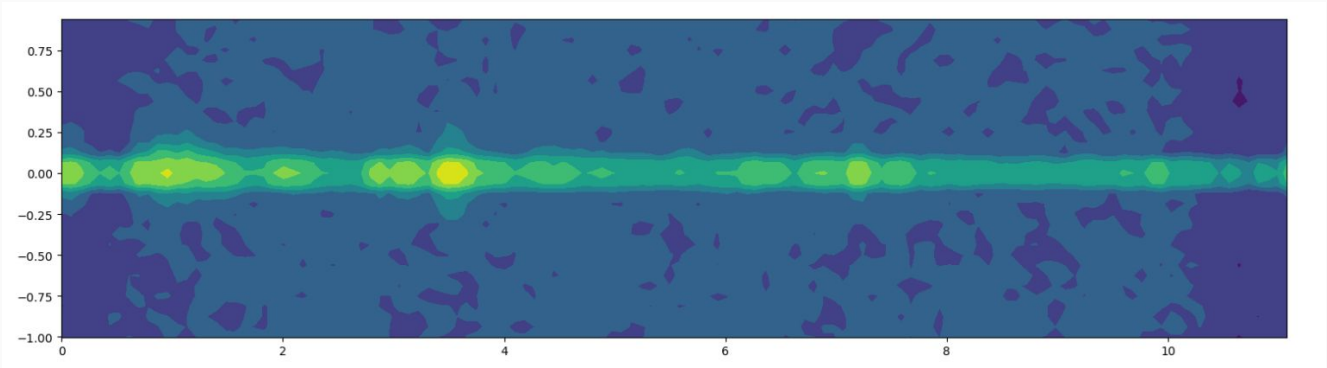
Livestreaming radar data

- Packets of data are received by radar
- Process data in real-time into range-doppler heat map and/or gating and association plot



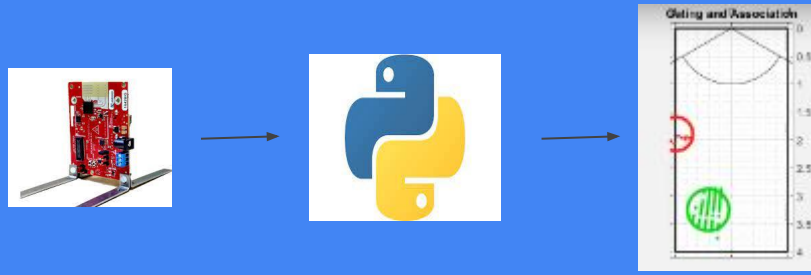
Gating Plot: Circles represent people detected, Quadrant represents radar position



Range-doppler heat map: Range bins as the X-axis, Doppler as the Y-axis. Brighter colors show reflected surfaces (people)

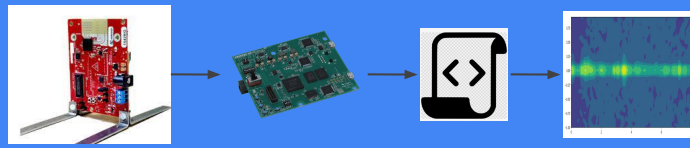
Approaches

1. AWR1642BOOST -> Python Script -> Gating Plot



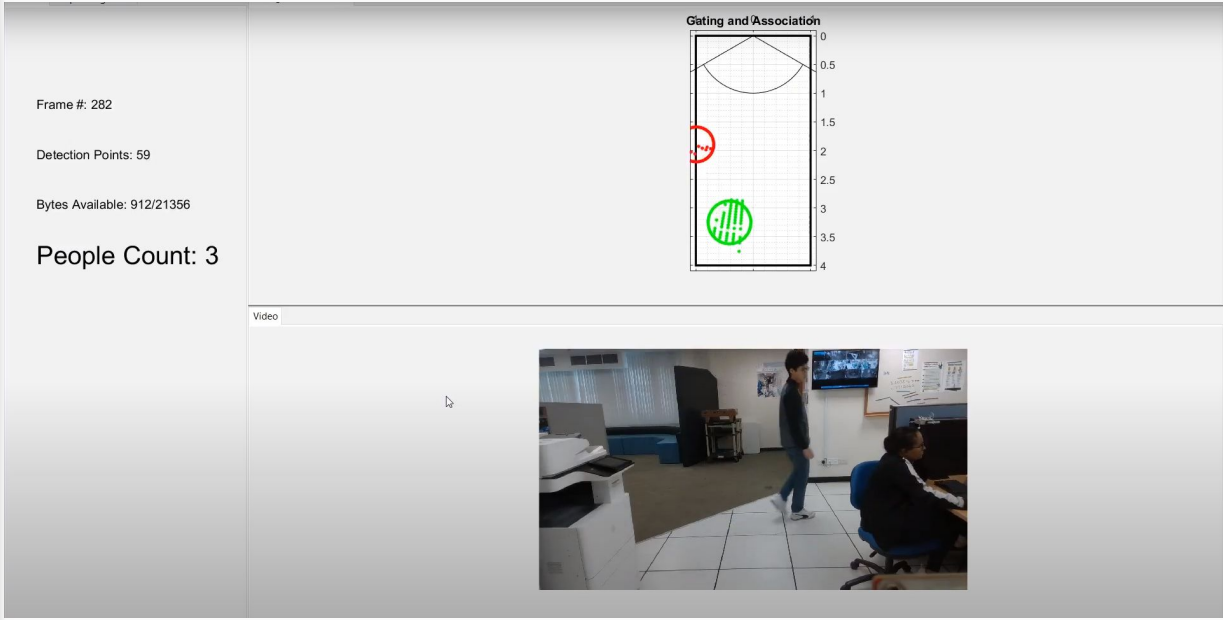
2. AWR1642BOOST -> Python Script -> RDMap

3. AWR1642BOOST -> DCA1000EVM -> Multiple Scripts -> RDMap

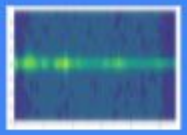


1. AWR1642BOOST -> Python Script -> Gating Plot

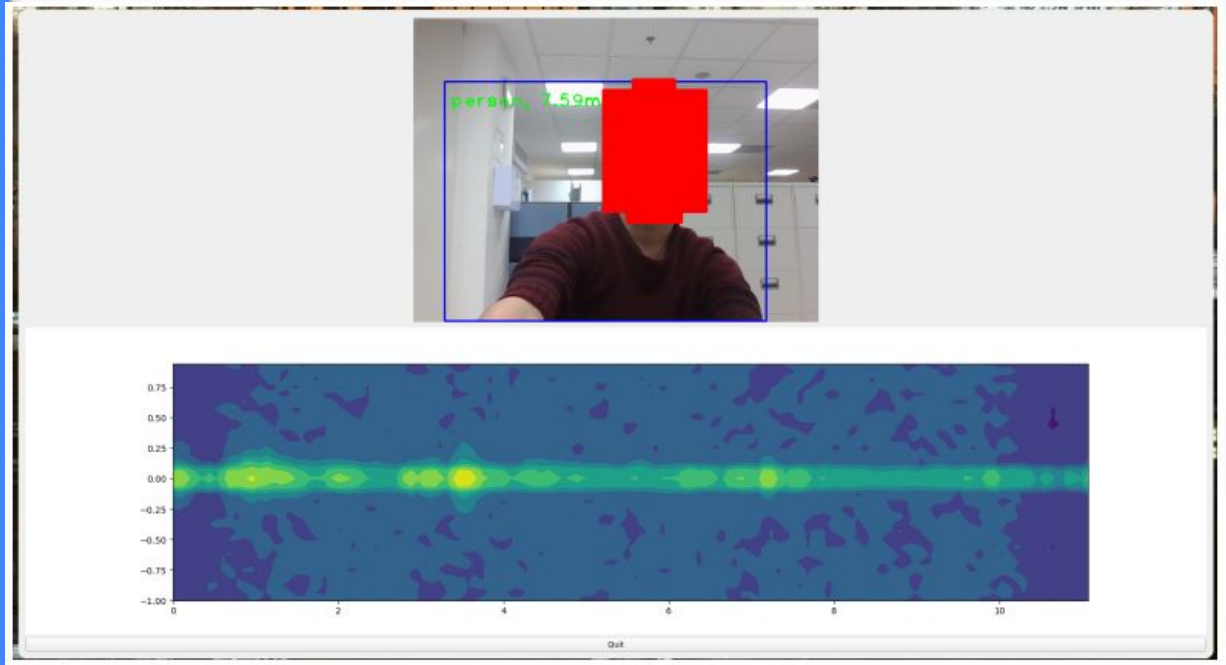
This turned out okay



2. AWR1642BOOST -> Python Script -> RDMap



Performance limited by poor processing power of awr1642



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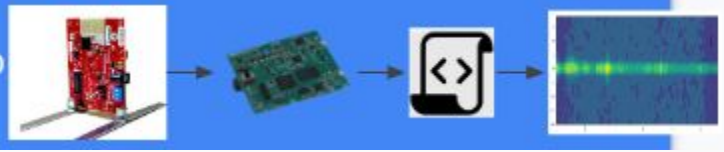
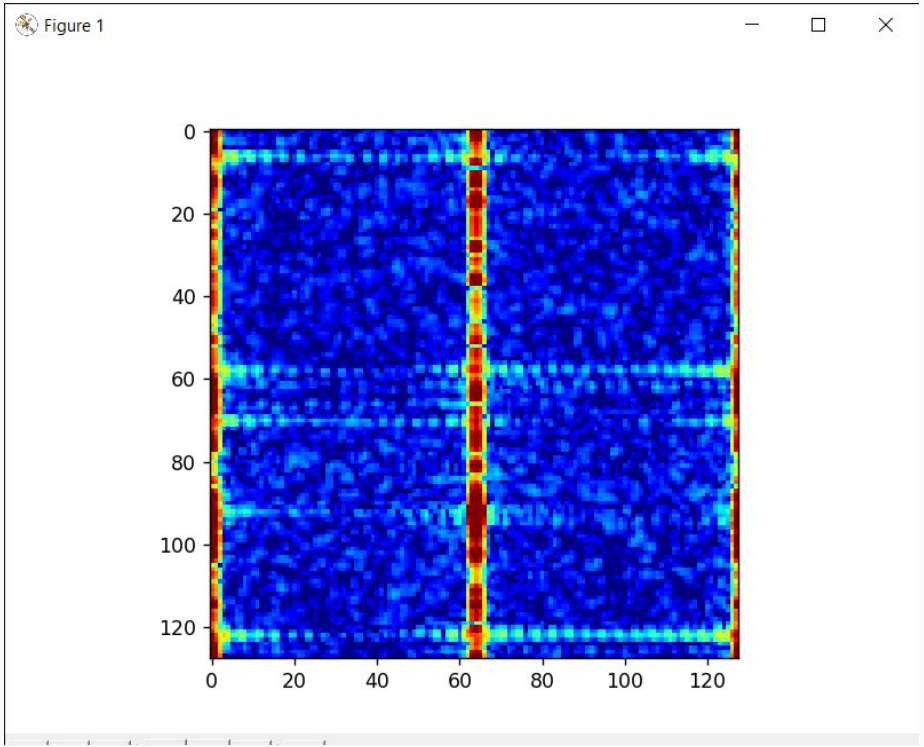


Flopped. Calling commands to DCA1000EVM_CLI over and over again was too slow. Best framerate was 1fps.

Should modify dca1000's source code instead.



Other tasks handled

1. Drawing boxes around building defects
2. Collecting radar data on static and moving gestures