Homework 2

1) most resolution?: more pixels per inch means more pixel info and ↑ quality, crisp image

DVS128	DAVIS240	DAVIS346	ATIS	gen3CD
16384	43200	89960	72960	307,200

gen3ATIS
64,800

highest res = DVS Gen4 samsung camera

gen4CD
921,6000

2) DVS Gen4 samsung camera

3) lowest latency?: latency could mean lag. lower latency is ideal. < 40-60 is ideal, prophese ATIS camera has 3 µs latency which is the lowest latency of those in table.

4) lowest power normalized to pixel resolution?

total power / pixels (see other page)

↳ GEN3 ATIS (PROPHESEE)

5) best energy efficiency / highest events / sec/w (P = W/t)

< 10 µW in Vidtech DAVIS346

(power / pixels in)

↳ this is not because highest # per second per watt

6) highest fill factor: prophese gen4CD is > 77. Fill factor is the ratio of a pixel's light sensitive area.

(7) highest contrast sensitivity:
celepixel celex-IV (30)

(8) highest dynamic range -
143 is the highest dynamic range. the
ATIS (Prophesee camera)

(5) question 5 → is the highest events per second per watt. this isn't necessarily the same because some would sacrifice event rate for lower power consumption but others may have higher event rate at expense of higher power consumption.

↳ celepixel is celex-V !

↳ the samsung does the best job at the above requirements but could have better contrast sensitivity and range. I think it could have better event rate for its power consumption and be more efficient.

problem 4

invation → lowest

↳ DVS 128

$\frac{23mW}{(128 \times 128)} \quad \frac{23}{16384} = .001366$

↳ DAVIS240

minimum

$\frac{9}{240 \times 180} = .0001574$

↳ DAVIS346

$\frac{10}{346 \times 260} = .00011116$ ← lowest!

prophese

↳ ATIS

$\frac{50}{304 \times 240} = .000685307$ ↑

↳ Gen 3CD

$\frac{36}{640 \times 480} = .000117187$ ↑

↳ gen3ATIS

$\frac{25}{480 \times 360} = .000144676$ ↑

↳ $\frac{32}{1280 \times 720} = .0000347222$ ← lowest ↑

samsung

↳ DVS-gen2 lowest

$\frac{27}{640 \times 480} = .0006836$ ↑

↳ DVS-gen3 higher

↳ dvs-gen4

$\frac{130}{1280 \times 960} = .0001017$ ↑

celepixel

↳ $\frac{?}{768 \times 640} = ?$

↳ celeX-V

$\frac{400}{1280 \times 400} = .000781$ ↑

insightness Rino3

↳ $\frac{20}{320 \times 240} = .00260$