KITTI 06 - Color Schemes

Figure: Camera-LIDAR fusion.
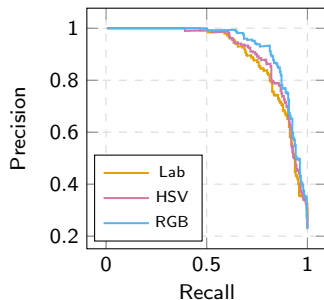

Figure: Stereo camera.

KITTI 00

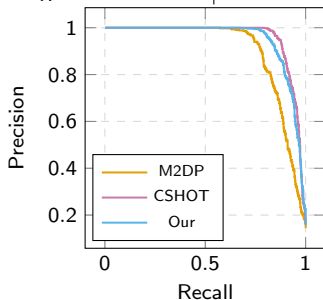| Descriptor	Dim.	Camera-LIDAR fusion		Stereo	
		Avg. time (s)	SD	Avg. time (s)	SD
M2DP	192	0.061973	0.005332	0.368949	0.102033
CSHOT	1344	0.105004	0.016634	1.508606	0.756144
c-M2DP (Our)	**576**	**0.077657**	0.006301	**0.431147**	0.114089

$s_X \oplus c_X$

Figure: Camera-LIDAR fusion.
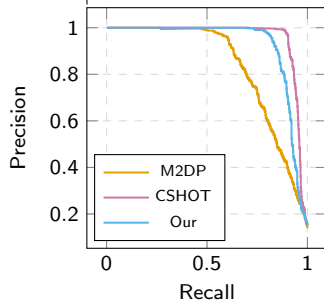
Figure: Stereo camera.

KITTI 05

Descriptor	Dim.	Camera-LIDAR fusion		Stereo	
		Avg. Time (s)	SD	Avg. Time (s)	SD
M2DP	192	0.067374	0.004087	0.358436	0.081641
CSHOT	1344	0.107232	0.016794	1.771053	1.015856
c-M2DP (Our)	**576**	**0.082995**	0.005184	**0.425875**	0.095526
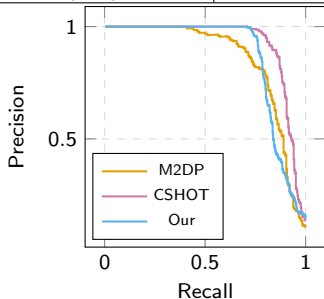
Figure: Camera-LIDAR fusion.
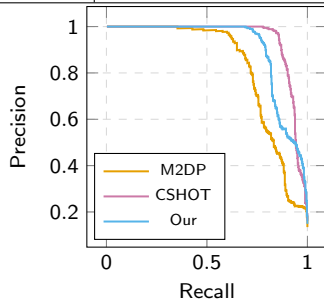
Figure: Stereo camera.

KITTI 06

Descriptor	Dim.	Camera-LIDAR fusion		Stereo	
		Avg. Time (s)	SD	Avg. Time (s)	SD
M2DP	192	0.064661	0.004323	0.277192	0.059929
CSHOT	1344	0.098741	0.014548	1.008401	1.445941
c-M2DP (Our)	**576**	**0.080398**	0.005358	**0.343553**	0.070057
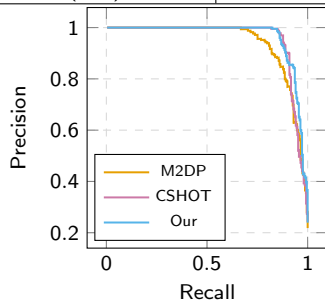
Figure: Camera-LIDAR fusion.
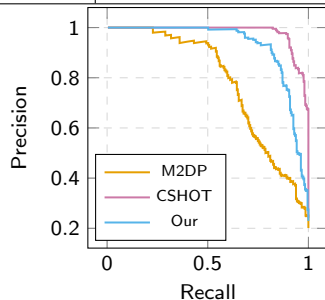
Figure: Stereo camera.

KITTI 07

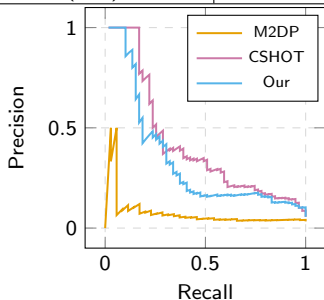| Descriptor	Dim.	Camera-LIDAR fusion		Stereo	
		Avg. Time (s)	SD	Avg. Time (s)	SD
M2DP	192	0.064511	0.006911	0.395541	0.091670
CSHOT	1344	0.095756	0.012887	1.755363	0.782688
c-M2DP (Our)	**576**	**0.075719**	0.005865	**0.478616**	0.105816

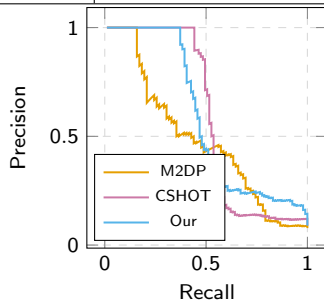Figure: Camera-LIDAR fusion.

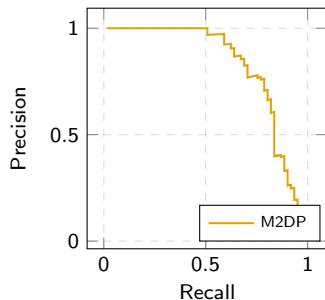Figure: Stereo camera.

KITTI 07 - LIDAR 360

Figure: LIDAR 360.

KITTI 00 - Camera+LIDAR fusion

■ Comparison between c-M2DP and CSHOT time means, using a paired sample t-test:

$$\mu_D = \mu_1 - \mu_2$$
$$H_o : \mu_D = 0$$
$$H_a : \mu_D < 0$$

$n = 4541$
$\overline{D} = -0.027347$
$\alpha = 0.05$
$t_c = -1.645$ (t-Student)

$$S_D^2 = \frac{1}{n-1} \sum_{i=1}^{n} (D_i - \overline{D})^2 = 0.000244$$

$$T = \frac{\overline{D} - \mu_D}{S_D/\sqrt{n}} = -117.964039$$

$$P(T < t_c) = 0.05$$

H_o rejected due to $T < t_c$.
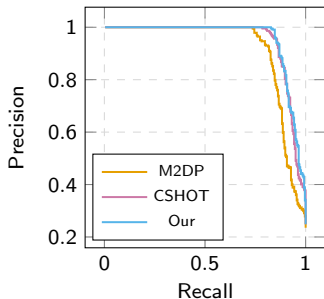H_a accepted, c-M2DP is faster than CSHOT.

KITTI 00 - Stereo

- Comparison between c-M2DP and CSHOT time means, using a paired sample t-test:

$$\mu_D = \mu_1 - \mu_2$$
$$H_o : \mu_D = 0$$
$$H_a : \mu_D < 0$$

$n = 4541$
$\overline{D} = -1.077459$
$\alpha = 0.05$
$t_c = -1.645$ (t-Student)

$$S_D^2 = \frac{1}{n-1} \sum_{i=1}^{n} (D_i - \overline{D})^2 = 0.465393$$

$$T = \frac{\overline{D} - \mu_D}{S_D/\sqrt{n}} = -106.430626$$

$$P(T < t_c) = 0.05$$

H_o rejected due to $T < t_c$.
H_a accepted, c-M2DP is faster than CSHOT.

KITTI 06 - Downsampled res x 5
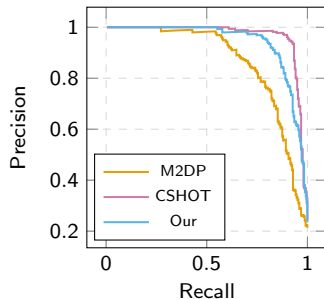

Figure: Camera-LIDAR fusion.

Figure: Stereo camera.

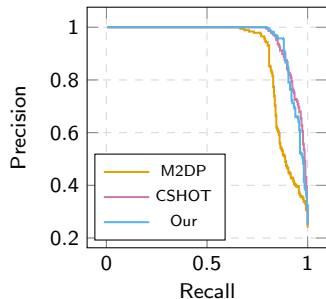# KITTI 06 - Downsampled res x 10
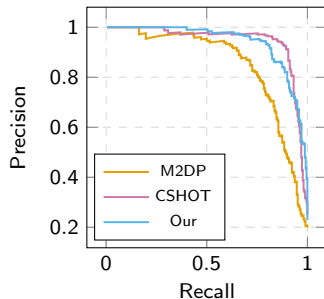

Figure: Camera-LIDAR fusion.

Figure: Stereo camera.
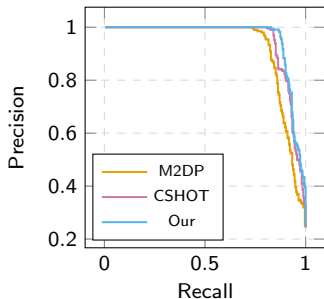
KITTI 06 - Downsampled res x 15

Figure: Camera-LIDAR fusion.

Figure: Stereo camera.

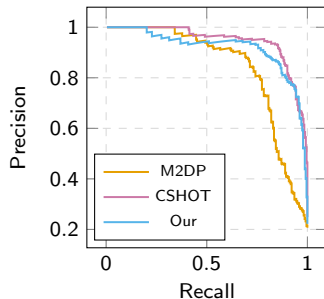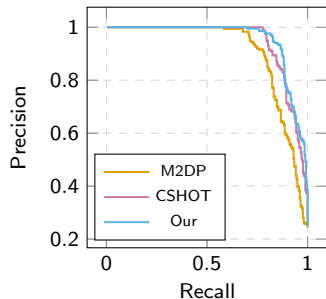# KITTI 06 - Downsampled res x 20

Figure: Camera-LIDAR fusion.

Figure: Stereo camera.