

Table of Contents

1.	Postshot 1.0.1: Training Radiance Field with GPU NVIDIA GB202 with GPU memory of 96GB	2
2.	Postshot 1.0.1: Metashape alignment and Training Radiance Field with GPU NVIDIA GB202	3
3.	Postshot 1.0.1: Training Radiance Field with GPU NVIDIA T4, A10G, L4, L40S and GB202	4
4.	Postshot 1.0.1: Camera tracking and Training Radiance Field	5
5.	Postshot 1.0.1: Camera tracking vs Metashape alignment and export to Colmap	6
6.	RealityScan 2.2: main processing steps with 100 images of 16MP (4864x3648)	7
7.	RealityScan 2.2: main processing steps with 300 images of 16MP (4864x3648) and Ephemeral drive use	8

1. Postshot 1.0.1: Training Radiance Field with GPU NVIDIA GB202 with GPU memory of 96GB

4742 images. Camera 1: ZenmuseP1 35mm (8280x5482); Camera 2: M4E 12.29mm (5556x4070);

Appilcation	Storage	Image size (pix)	Splats (mn)	Steps	GPU Used (%)	GPU Memory Used (GB)	CPU (%)	RAM used (GB)	Price (\$/hour)	Time	Cost (\$)	Comments
3DGS Package 32/256 1*GB202	Ephemeral	3,840	45	60,000	100	43/94	8	147/254	\$16.628	1:23:30	\$23.141	
3DGS Package 32/256 1*GB202	Standard	3,840	45	60,000	100	43/94	8	148/254	\$16.628	1:23:18	\$23.085	
3DGS Package 32/256 1*GB202	Ephemeral	3,840	90	60,000	100	79/94	8	147/254	\$16.628	2:24:00	\$39.907	
3DGS Package 16/128 1*GB202	Ephemeral	3,840	45	60,000	100	xx/94	8	99/128	\$12.633		\$0.000	Out of RAM crash
3DGS Package 48/512 2*GB202	Ephemeral	3,840	120	60,000	100	93/94	3	154/508	\$24.903		\$0.000	Out of GPU memory after 91MSplats created
3DGS Package 32/256 1*L40S	Ephemeral	3,840	45	30,000	100	43/44	5	153/253	\$12.080			Out of GPU memory crash

Comments:

Out of RAM crash is due to large number of images or image size

Out of GPU memory crash is due to large number of splats.

2. Postshot 1.0.1: Metashape alignment and Training Radiance Field with GPU NVIDIA GB202

4742 images. Camera 1: ZenmuseP1 35mm (8280x5482); Camera 2: M4E 12.29mm (5556x4070);

Process	Appilcation	GPU (%)	GPU Memory Used (GB)	CPU (%)	RAM used (GB)	Price (\$/hour)	Time	Cost (\$)	Comments
Matching	Metashape 48/194 4xL4	90		8	3	\$11.663	0:30:12	\$5.870	
Alignment	Metashape 48/194 4xL4	0		99	10	\$11.663	0:40:21	\$7.843	2,259,531 points
Export Colmap	Metashape 16/32 CPU@4.5GHz	0		50	9	\$3.876	0:44:50	\$2.896	
Metashape total:							1:55:23	\$16.610	
Training Radiance Field	3DGS Package 32/256 1*GB202	100	43/94	8	147/254	\$16.628	1:23:30	\$23.141	Image 3840 pix 45000 kSplats 60 kSteps
Total:							3:18:53	\$39.751	

3. Postshot 1.0.1: Training Radiance Field with GPU NVIDIA T4, A10G, L4, L40S and GB202

Image poses were created with Metashape and RealityScan.

Metashape Colmap export of 50 jpg 61MP images, **7 MB**, 6336x9504, SONY, ILCE-7RM4, focal length 24 mm

Appilcation	GPU	GPU Memory (GB)	RAM (GB)	GPU Usage (%)	CPU Usage (%)	RAM Usage (GB)	Splats (mn)	kSteps	Price (\$/hour)	Time	Cost (\$)
3DGS 8/32 1xT4/16GB	1	16	32	25	17	5	3	30	\$4.53	1:23:06	\$6.27
3DGS 8/32 1xL4/24GB	1	24	32	60	18	5	3	30	\$4.94	0:41:59	\$3.45
3DGS 32/256 1xL4/24GB	1	24	256	70	5	8	3	30	\$9.23	0:41:29	\$6.38
3DGS 8/32 1xA10G/24GB	1	24	32	55	18	5	3	30	\$5.23	0:28:13	\$2.46
3DGS 8/64 1xL40S/48GB	1	48	64	70	22	5	3	30	\$6.93	0:14:06	\$1.63
3DGS 32/256 1xL40S/48GB	1	48	256	70	5	8	3	30	\$12.08	0:13:52	\$2.79
3DGS 64/512 1xL40S/48GB	1	48	512	75	2	11	3	30	\$18.28	0:12:50	\$3.91

Metashape Colmap export of 911 jpg 61MP images, **20MB**, 9504x6336, SONY, ILCE-7RM4A, focal length 24 mm

Appilcation	GPU	GPU Memory (GB)	RAM (GB)	GPU Usage (%)	CPU Usage (%)	RAM Usage (GB)	Splats (mn)	kSteps	Price (\$/hour)	Time	Cost (\$)
3DGS 8/64 1xL40S/48GB	1	48	64	75	19	29	3	46	\$6.93	0:30:16	\$3.49
3DGS 16/128 1xL40S/48GB	1	48	128	100	10	31	3	46	\$8.63	0:25:12	\$3.63
3DGS 32/256 1xL40S/48GB	1	48	256	75	8	31	3	46	\$12.08	0:23:10	\$4.66
3DGS 64/512 1xL40S/48GB	1	48	512	75	3	35	3	46	\$18.28	0:21:22	\$6.51
3DGS 8/64 1xGB202S/96GB	1	96	64	100	19	29	3	46	\$10.50	0:18:14	\$3.19
3DGS 16/128 1xGB202S/96GB	1	96	128	100	10	32	3	46	\$12.47	0:15:29	\$3.22
3DGS 32/256 1xGB202S/96GB	1	96	256	100	7	36	3	46	\$16.40	0:13:32	\$3.70
3DGS 48/512 2xGB202S/96GB	2	2x96	512	100	5	40	3	46	\$24.90	0:13:23	\$5.55
3DGS 96/1024 4xGB202S/96GB	4	4x96	1024	100	3	46	3	46	\$43.29	0:13:25	\$9.68
3DGS 192/2048 8xGB202S/96GB	8	8x96	2048	100	2	60	3	46	\$80.77	0:13:29	\$18.15

4. Postshot 1.0.1: Camera tracking and Training Radiance Field

Colmap 911 jpg images, **20MB**, ~9504x6336, SONY, ILCE-7RM4A, focal length 24 mm;

3DGS 32/256 1xL40S/48GB									
Process	CUDA (%)	CPU (%)	RAM (GB)	Splats (mn)	kSteps	Price (\$/hour)	Time	Cost (\$)	Comments
Camera trackings step 1	30	68	159	3	46	\$12.08	0:05:48	\$1.17	
Camera trackings step 2	92	100	159	3	46	\$12.08	0:29:00	\$5.84	
Camera trackings step 3	0	38	162	3	46	\$12.08	0:57:40	\$11.61	
Camera trackings step 4	0	8	163	3	46	\$12.08	0:10:00	\$2.01	350,580 points
Total:							1:42:28	\$20.63	
Training Radiance Field	100	8	184	3	46	\$12.08	0:21:52	\$4.40	
Total:							2:04:20	\$25.03	

Original 916 png images, **120MB**, 9504x6336, SONY, ILCE-7RM4A, focal length 24 mm;

3DGS 32/256 1xL40S/48GB									
Process	CUDA (%)	CPU (%)	RAM (GB)	Splats (mn)	kSteps	Price (\$/hour)	Time	Cost (\$)	Comments
Camera trackings step 1	30	68	160	3	46	\$12.08	0:13:03	\$2.63	
Camera trackings step 2	92	100	161	3	46	\$12.08	0:30:30	\$6.14	
Camera trackings step 3	0	38	164	3	46	\$12.08	1:30:30	\$18.22	
Camera trackings step 4	0	8	164	3	46	\$12.08	0:09:11	\$1.85	369,380 points
Total:							2:23:14	\$28.84	
Training Radiance Field	100	8	184	3	46	\$12.08	0:21:31	\$4.33	
Total:							2:44:45	\$33.17	

5. Postshot 1.0.1: Camera tracking vs Metashape alignment and export to Colmap

Original 916 png images, **120MB**, 9504x6336, SONY, ILCE-7RM4A, focal length 24 mm;

3DGS 32/256 1xL40S/48GB									
Process	CUDA (%)	CPU (%)	RAM (GB)	Splats (mn)	kSteps	Price (\$/hour)	Time	Cost (\$)	Comments
Camera trackings step 1	30	68	160	3	46	\$12.08	0:13:03	\$2.63	
Camera trackings step 2	92	100	161	3	46	\$12.08	0:30:30	\$6.14	
Camera trackings step 3	0	38	164	3	46	\$12.08	1:30:30	\$18.22	
Camera trackings step 4	0	8	164	3	46	\$12.08	0:09:11	\$1.85	369,380 points
Total:							2:23:14	\$28.84	

Metashape Alignment of 916 png images with Colmap Export

Process	Appilcation	CUDA (%)	CPU (%)	RAM (GB)	Price (\$/hour)	Time	Cost (\$)	Comments
Matching	Metashape 48/194 4xL4	90	8	3	\$11.663	0:17:29	\$3.398	
Alignment	Metashape 48/194 4xL4	0	99	10	\$11.663	0:16:55	\$3.288	412,993 points
Export Colmap	Metashape 16/32 CPU@3.7GHz	0	40	13	\$3.876	0:34:20	\$2.218	
Total:						1:08:44	\$8.905	

6. RealityScan 2.2: main processing steps with 100 images of 16MP (4864x3648)

	GPU	CPU	RealityScan 8/32 1xT4	RealityScan 32/128 1xT4	RealityScan 64/256 1xT4	RealityScan 48/192 4xT4	RealityScan 8/32 1xL4	RealityScan 32/128 1xL4	RealityScan 64/256 1xL4	RealityScan 48/192 4xL4
OS			Windows 2019	Windows 2019	Windows 2019	Windows 2019	Windows 2019	Windows 2019	Windows 2019	Windows 2019
Storage			Fixed Standard	Fixed Standard	Fixed Standard	Fixed Standard	Fixed Standard	Fixed Standard	Fixed Standard	Fixed Standard
GPU			1 x T4	1 x T4	1 x T4	4 x T4	1 x L4	1 x L4	1 x L4	4 x L4
CPU/RAM			8/32	32/128	64/256	48/192	8/32	32/128	64/256	48/192
Alignment	v	v	0:00:56	0:00:54	0:00:50	0:00:52	0:01:08	0:00:38	0:00:35	0:00:34
Mesh High	v	v	0:37:10	0:20:01	0:19:59	0:13:38	0:26:19	0:14:39	0:13:23	0:11:26
Coloring	v	v	0:04:59	0:02:46	0:02:38	0:01:57	0:03:15	0:02:00	0:01:53	0:01:31
Texturing	v	v	0:08:29	0:04:54	0:07:39	0:05:55	0:06:05	0:04:30	0:05:49	0:05:15
Classifying		v	0:01:23	0:00:29	0:00:45	0:00:30	0:00:58	0:00:26	0:00:28	0:00:28
Orthographic projection		v	0:03:05	0:03:10	0:03:05	0:03:05	0:02:48	0:02:50	0:02:40	0:02:44
Total time (h)			0:56:02	0:32:14	0:34:56	0:25:57	0:40:33	0:25:03	0:24:48	0:21:58
Price (\$/h)			\$4.528	\$8.342	\$13.253	\$12.855	\$4.936	\$8.355	\$12.316	\$14.268
Total price			\$4.23	\$4.48	\$7.72	\$5.56	\$3.34	\$3.49	\$5.09	\$5.22

	GPU	CPU	RealityScan 8/32 1xA10G	RealityScan 32/128 1xA10G	RealityScan 64/256 1xA10G	RealityScan 48/192 4xA10G	RealityScan 32/128 1xL40S	RealityScan 48/192 4xL40S
OS			Windows 2019	Windows 2019	Windows 2019	Windows 2019	Windows 2019	Windows 2019
Storage			Fixed Standard	Fixed Standard	Fixed Standard	Fixed Standard	Fixed Standard	Fixed Standard
GPU			1 x A10G	1 x A10G	1 x A10G	4 x A10G	1 x L40S	4 x L40S
CPU/RAM			8/32	32/128	64/256	48/192	32/256	48/384
Alignment	v	v	0:01:30	0:00:42	0:00:39	0:00:40	0:00:36	0:00:35
Mesh High	v	v	0:26:35	0:14:01	0:13:15	0:11:05	0:13:45	0:10:55
Coloring	v	v	0:03:38	0:02:00	0:01:49	0:01:35	0:01:58	0:01:29
Texturing	v	v	0:06:42	0:04:09	0:04:46	0:04:34	0:04:20	0:05:23
Classifying		v	0:01:05	0:00:25	0:00:27	0:00:27	0:00:27	0:00:26
Orthographic projection		v	0:02:44	0:02:48	0:02:45	0:02:42	0:02:58	0:02:44
Total time (h)			0:42:14	0:24:05	0:23:41	0:21:03	0:24:04	0:21:32
Price (\$/h)			\$5.227	\$8.938	\$13.277	\$15.782	\$12.080	\$22.881
Total price			\$3.68	\$3.59	\$5.24	\$5.54	\$4.85	\$8.21

7. RealityScan 2.2: main processing steps with 300 images of 16MP (4864x3648) and Ephemeral drive use

	GPU	CPU	RealityScan 48/192 4xA10G	RealityScan 48/192 4xA10G	RealityScan 48/192 4xA10G	RealityScan 48/192 4xA10G	RealityScan 48/192 4xT4	RealityScan 48/192 4xL40S
OS			Windows 2019	Windows 2019	Windows 2019	Windows 2019	Windows 2019	Windows 2019
Storage			Fixed Standard	Fixed Fast	Fixed Standard + Ephemeral 1	Fixed Fast + Ephemeral 1	Fixed Standard	Fixed Fast + Ephemeral 1
GPU			4 x A10G	4 x A10G	4 x A10G	4 x A10G	4 x T4	4 x T4
CPU/RAM			48/192	48/192	48/192	48/192	48/192	48/192
Alignment	v	v	0:02:03	0:02:01	0:01:58	0:01:22	0:02:34	0:02:30
Mesh High	v	v	0:37:27	0:28:42	0:26:32	0:27:01	0:45:45	0:36:53
Coloring	v	v	0:06:18	0:05:35	0:04:37	0:04:26	0:06:45	0:06:12
Texturing	v	v	0:13:56	0:09:01	0:08:43	0:08:33	0:17:20	0:13:48
Classifying		v	0:01:31	0:01:02	0:01:00	0:00:56	0:01:37	0:01:14
Orthographic projection		v	0:08:47	0:06:10	0:04:50	0:03:45	0:09:45	0:06:48
Total time (h)			1:10:02	0:52:31	0:47:40	0:46:03	1:23:46	1:07:25
Price (\$/h)			\$15.782	\$15.782	\$15.782	\$15.782	\$12.855	\$12.855
Total price			\$18.42	\$13.81	\$12.54	\$12.11	\$17.95	\$14.44

	GPU	CPU	RealityScan 48/192 4xL4	RealityScan 48/192 4xL4	RealityScan 48/192 4xL4	RealityScan 48/192 4xL4	RealityScan 48/192 4xL40S	RealityScan 48/192 4xL40S
OS			Windows 2019	Windows 2019	Windows 2019	Windows 2019	Windows 2019	Windows 2019
Storage			Fixed Standard	Fixed Fast	Fixed Standard + Ephemeral 5	Fixed Fast + Ephemeral 4	Fixed Standard	Fixed Fast + Ephemeral 4
GPU			4 x L4	4 x L4	4 x L4	4 x L4	4 x L40S	4 x L40S
CPU/RAM			48/192	48/192	48/192	48/192	48/384	48/384
Alignment	v	v	0:01:46	0:01:46	0:01:40	0:01:43	0:01:46	0:01:46
Mesh High	v	v	0:40:28	0:30:52	0:27:54	0:27:55	0:39:22	0:27:52
Coloring	v	v	0:05:59	0:04:49	0:04:21	0:04:21	0:06:01	0:04:18
Texturing	v	v	0:17:19	0:13:45	0:12:51	0:12:42	0:16:28	0:12:54
Classifying		v	0:01:37	0:01:10	0:01:14	0:01:06	0:01:36	0:01:05
Orthographic projection		v	0:08:48	0:06:22	0:04:51	0:03:18	0:08:53	0:03:42
Total time (h)			1:15:57	0:58:44	0:52:51	0:51:05	1:14:06	0:51:37
Price (\$/h)			\$14.268	\$14.268	\$14.268	\$14.268	\$22.881	\$22.881
Total price			\$18.06	\$13.97	\$12.57	\$12.15	\$28.26	\$19.68

Comments:

Fixed Standard/Fast+Ephemeral 1: images and temporary folder are in Ephemeral drive, project is in Storage

Fixed Fast+Ephemeral 4: all three are in different Ephemeral drives

Fixed Standard+Ephemeral 5: images and temporary folder are in two Ephemeral drives, project is in Storage