

Starting training for 50 epochs...

Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Size	
1/50	2.09G	1.781	2.36	1.655	19	640: 100%	1638/1638 5.5it/s 4:60
	Class	Images	Instances	Box(P)	R	mAP50 mAP50-95): 100%	19/19 5.3it/s 3.6s
	all	591	981	0.631	0.611	0.628	0.298

Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Size	
2/50	1.93G	1.757	1.741	1.614	28	640: 100%	1638/1638 5.7it/s 4:47
	Class	Images	Instances	Box(P)	R	mAP50 mAP50-95): 100%	19/19 5.9it/s 3.2s
	all	591	981	0.727	0.638	0.692	0.35

Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Size	
3/50	1.93G	1.812	1.715	1.671	32	640: 100%	1638/1638 5.8it/s 4:43
	Class	Images	Instances	Box(P)	R	mAP50 mAP50-95): 100%	19/19 5.9it/s 3.2s
	all	591	981	0.665	0.586	0.624	0.281

Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Size
4/50	1.93G	1.822	1.669	1.687	49	640: 100% ━━━━━━━━ 1638/1638 5.8it/s 4:43
	Class	Images	Instances	Box(P	R	mAP50 mAP50-95): 100% ━━━━━━━━ 19/19 5.7it/s 3.3s
	all	591	981	0.758	0.642	0.711 0.363

Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Size
5/50	1.93G	1.755	1.549	1.647	39	640: 100% ━━━━━━━━ 1638/1638 5.7it/s 4:45
	Class	Images	Instances	Box(P	R	mAP50 mAP50-95): 100% ━━━━━━━━ 19/19 5.4it/s 3.5s
	all	591	981	0.817	0.672	0.775 0.406

Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Size
6/50	1.93G	1.709	1.459	1.613	20	640: 100% ━━━━━━━━ 1638/1638 5.8it/s 4:42
	Class	Images	Instances	Box(P	R	mAP50 mAP50-95): 100% ━━━━━━━━ 19/19 5.8it/s 3.3s
	all	591	981	0.777	0.682	0.755 0.394

Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Size
7/50	1.93G	1.673	1.392	1.585	33	640: 100% ━━━━━━━━ 1638/1638 5.7it/s 4:49

Class	Images	Instances	Box(P)	R	mAP50	mAP50-95): 100%	19/19	6.1it/s	3.1s
all	591	981	0.794	0.719	0.777	0.422			

Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Size			
8/50	1.93G	1.638	1.334	1.556	30	640: 100%	1638/1638	5.8it/s	4:43

Class	Images	Instances	Box(P)	R	mAP50	mAP50-95): 100%	19/19	5.9it/s	3.2s
all	591	981	0.808	0.728	0.801	0.423			

Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Size			
9/50	1.93G	1.608	1.27	1.526	35	640: 100%	1638/1638	5.7it/s	4:45

Class	Images	Instances	Box(P)	R	mAP50	mAP50-95): 100%	19/19	5.4it/s	3.5s
all	591	981	0.817	0.733	0.812	0.441			

Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Size			
10/50	1.93G	1.585	1.227	1.505	34	640: 100%	1638/1638	5.8it/s	4:44

Class	Images	Instances	Box(P)	R	mAP50	mAP50-95): 100%	19/19	5.8it/s	3.3s
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all 591 981 0.83 0.726 0.817 0.453

Epoch GPU_mem box_loss cls_loss dfl_loss Instances Size

11/50 1.93G 1.562 1.182 1.481 23 640: 100% ━━━━━━━━━━ 1638/1638 5.8it/s 4:42

Class Images Instances Box(P R mAP50 mAP50-95): 100% ━━━━━━━━━━ 19/19 5.9it/s 3.2s

all 591 981 0.846 0.717 0.815 0.438

Epoch GPU_mem box_loss cls_loss dfl_loss Instances Size

12/50 1.93G 1.544 1.148 1.464 31 640: 100% ━━━━━━━━━━ 1638/1638 5.8it/s 4:42

Class Images Instances Box(P R mAP50 mAP50-95): 100% ━━━━━━━━━━ 19/19 6.0it/s 3.2s

all 591 981 0.815 0.743 0.826 0.458

Epoch GPU_mem box_loss cls_loss dfl_loss Instances Size

13/50 1.93G 1.52 1.112 1.448 16 640: 100% ━━━━━━━━━━ 1638/1638 5.8it/s 4:42

Class Images Instances Box(P R mAP50 mAP50-95): 100% ━━━━━━━━━━ 19/19 5.9it/s 3.2s

all 591 981 0.84 0.754 0.83 0.475

Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Size
14/50	1.93G	1.504	1.084	1.434	22	640: 100% ━━━━━━━━ 1638/1638 5.8it/s 4:42
	Class	Images	Instances	Box(P	R	mAP50 mAP50-95): 100% ━━━━━━━━ 19/19 6.0it/s 3.2s
	all	591	981	0.857	0.774	0.852 0.483

Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Size
15/50	1.93G	1.481	1.049	1.416	25	640: 100% ━━━━━━━━ 1638/1638 5.8it/s 4:42
	Class	Images	Instances	Box(P	R	mAP50 mAP50-95): 100% ━━━━━━━━ 19/19 5.7it/s 3.4s
	all	591	981	0.834	0.749	0.831 0.473

Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Size
16/50	1.93G	1.465	1.02	1.403	31	640: 100% ━━━━━━━━ 1638/1638 5.8it/s 4:42
	Class	Images	Instances	Box(P	R	mAP50 mAP50-95): 100% ━━━━━━━━ 19/19 6.0it/s 3.2s
	all	591	981	0.831	0.788	0.85 0.485

Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Size
17/50	1.93G	1.449	0.9951	1.389	24	640: 100% ━━━━━━━━ 1638/1638 5.8it/s 4:42

Class	Images	Instances	Box(P)	R	mAP50	mAP50-95): 100%	19/19	6.1it/s	3.1s
all	591	981	0.851	0.786	0.854	0.486			

Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Size			
18/50	1.93G	1.431	0.9771	1.378	29	640: 100%	1638/1638	5.7it/s	4:45

Class	Images	Instances	Box(P)	R	mAP50	mAP50-95): 100%	19/19	5.9it/s	3.2s
all	591	981	0.856	0.77	0.856	0.482			

Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Size			
19/50	1.93G	1.415	0.9503	1.362	30	640: 100%	1638/1638	5.8it/s	4:42

Class	Images	Instances	Box(P)	R	mAP50	mAP50-95): 100%	19/19	6.0it/s	3.2s
all	591	981	0.852	0.756	0.85	0.484			

Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Size			
20/50	1.93G	1.401	0.9286	1.348	17	640: 100%	1638/1638	5.8it/s	4:42

Class	Images	Instances	Box(P)	R	mAP50	mAP50-95): 100%	19/19	6.0it/s	3.2s
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all 591 981 0.853 0.789 0.859 0.491

Epoch GPU_mem box_loss cls_loss dfl_loss Instances Size

21/50 1.93G 1.387 0.9164 1.336 25 640: 100% ━━━━━━━━━━━━━━━━ 1638/1638 5.8it/s 4:42

Class Images Instances Box(P R mAP50 mAP50-95): 100% ━━━━━━━━━━━━━━ 19/19 6.1it/s 3.1s

all 591 981 0.841 0.79 0.852 0.485

Epoch GPU_mem box_loss cls_loss dfl_loss Instances Size

22/50 1.93G 1.376 0.8982 1.327 40 640: 100% ━━━━━━━━━━━━━━ 1638/1638 5.8it/s 4:42

Class Images Instances Box(P R mAP50 mAP50-95): 100% ━━━━━━━━━━━━━━ 19/19 6.0it/s 3.2s

all 591 981 0.826 0.79 0.849 0.494

Epoch GPU_mem box_loss cls_loss dfl_loss Instances Size

23/50 1.93G 1.365 0.8836 1.324 48 640: 100% ━━━━━━━━━━━━━━ 1638/1638 5.8it/s 4:43

Class Images Instances Box(P R mAP50 mAP50-95): 100% ━━━━━━━━━━━━━━ 19/19 5.8it/s 3.3s

all 591 981 0.834 0.791 0.847 0.493

Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Size
24/50	1.93G	1.346	0.8597	1.308	34	640: 100% ━━━━━━━━ 1638/1638 5.8it/s 4:43
	Class	Images	Instances	Box(P	R	mAP50 mAP50-95): 100% ━━━━━━━━ 19/19 6.1it/s 3.1s
	all	591	981	0.845	0.78	0.848 0.492

Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Size
25/50	1.93G	1.336	0.8502	1.295	24	640: 100% ━━━━━━━━ 1638/1638 5.8it/s 4:42
	Class	Images	Instances	Box(P	R	mAP50 mAP50-95): 100% ━━━━━━━━ 19/19 6.0it/s 3.2s
	all	591	981	0.832	0.803	0.854 0.496

Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Size
26/50	1.93G	1.318	0.8308	1.287	37	640: 100% ━━━━━━━━ 1638/1638 5.8it/s 4:43
	Class	Images	Instances	Box(P	R	mAP50 mAP50-95): 100% ━━━━━━━━ 19/19 5.9it/s 3.2s
	all	591	981	0.857	0.787	0.857 0.495

Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Size
27/50	1.93G	1.309	0.8194	1.281	36	640: 100% ━━━━━━━━ 1638/1638 5.8it/s 4:42

Class	Images	Instances	Box(P)	R	mAP50	mAP50-95): 100%	19/19	6.0it/s	3.2s
all	591	981	0.846	0.805	0.863	0.5			

Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Size
28/50	1.93G	1.295	0.8058	1.272	31	640: 100%————— 1638/1638 5.8it/s 4:43

Class	Images	Instances	Box(P)	R	mAP50	mAP50-95): 100%	19/19	6.0it/s	3.2s
all	591	981	0.854	0.796	0.858	0.501			

Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Size
29/50	1.93G	1.289	0.7929	1.268	35	640: 100%————— 1638/1638 5.8it/s 4:43

Class	Images	Instances	Box(P)	R	mAP50	mAP50-95): 100%	19/19	5.9it/s	3.2s
all	591	981	0.848	0.788	0.847	0.503			

Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Size
30/50	1.93G	1.27	0.7761	1.254	22	640: 100%————— 1638/1638 5.8it/s 4:42

Class	Images	Instances	Box(P)	R	mAP50	mAP50-95): 100%	19/19	6.0it/s	3.1s
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all 591 981 0.859 0.771 0.844 0.501

Epoch GPU_mem box_loss cls_loss dfl_loss Instances Size

31/50 1.93G 1.26 0.769 1.25 30 640: 100% ━━━━━━━━━━ 1638/1638 5.8it/s 4:43

Class Images Instances Box(P R mAP50 mAP50-95): 100% ━━━━━━━━━━ 19/19 5.8it/s 3.3s

all 591 981 0.88 0.771 0.853 0.503

Epoch GPU_mem box_loss cls_loss dfl_loss Instances Size

32/50 1.93G 1.251 0.7599 1.245 33 640: 100% ━━━━━━━━━━ 1638/1638 5.8it/s 4:42

Class Images Instances Box(P R mAP50 mAP50-95): 100% ━━━━━━━━━━ 19/19 6.0it/s 3.2s

all 591 981 0.872 0.788 0.857 0.502

Epoch GPU_mem box_loss cls_loss dfl_loss Instances Size

33/50 1.93G 1.231 0.7431 1.228 42 640: 100% ━━━━━━━━━━ 1638/1638 5.8it/s 4:42

Class Images Instances Box(P R mAP50 mAP50-95): 100% ━━━━━━━━━━ 19/19 6.1it/s 3.1s

all 591 981 0.864 0.803 0.855 0.498

Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Size
34/50	1.93G	1.219	0.73	1.22	29	640: 100% ━━━━━━━━ 1638/1638 5.8it/s 4:43
	Class	Images	Instances	Box(P	R	mAP50 mAP50-95): 100% ━━━━━━━━ 19/19 6.0it/s 3.2s
	all	591	981	0.857	0.793	0.849 0.498

Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Size
35/50	1.93G	1.214	0.723	1.221	33	640: 100% ━━━━━━━━ 1638/1638 5.8it/s 4:43
	Class	Images	Instances	Box(P	R	mAP50 mAP50-95): 100% ━━━━━━━━ 19/19 6.1it/s 3.1s
	all	591	981	0.855	0.788	0.846 0.499

Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Size
36/50	1.93G	1.198	0.7109	1.207	27	640: 100% ━━━━━━━━ 1638/1638 5.8it/s 4:42
	Class	Images	Instances	Box(P	R	mAP50 mAP50-95): 100% ━━━━━━━━ 19/19 5.9it/s 3.2s
	all	591	981	0.854	0.786	0.845 0.499

Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Size
37/50	1.93G	1.186	0.6974	1.2	22	640: 100% ━━━━━━━━ 1638/1638 5.8it/s 4:42

Class	Images	Instances	Box(P)	R	mAP50	mAP50-95): 100%	19/19	6.1it/s	3.1s
all	591	981	0.848	0.79	0.847	0.5			

Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Size			
38/50	1.93G	1.177	0.6905	1.195	29	640: 100%	1638/1638	5.8it/s	4:42

Class	Images	Instances	Box(P)	R	mAP50	mAP50-95): 100%	19/19	6.0it/s	3.2s
all	591	981	0.856	0.786	0.846	0.499			

Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Size			
39/50	1.93G	1.161	0.6782	1.185	25	640: 100%	1638/1638	5.8it/s	4:42

Class	Images	Instances	Box(P)	R	mAP50	mAP50-95): 100%	19/19	6.1it/s	3.1s
all	591	981	0.858	0.782	0.845	0.502			

Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Size			
40/50	1.93G	1.156	0.6717	1.185	28	640: 100%	1638/1638	5.8it/s	4:42

Class	Images	Instances	Box(P)	R	mAP50	mAP50-95): 100%	19/19	6.1it/s	3.1s
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all 591 981 0.858 0.785 0.847 0.502

Closing dataloader mosaic

Epoch GPU_mem box_loss cls_loss dfl_loss Instances Size

41/50 1.93G 1.106 0.5535 1.156 14 640: 100% ━━━━━━━━━━ 1638/1638 5.8it/s 4:42

Class Images Instances Box(P R mAP50 mAP50-95): 100% ━━━━━━━━━━ 19/19 5.4it/s 3.5s

all 591 981 0.857 0.785 0.845 0.504

Epoch GPU_mem box_loss cls_loss dfl_loss Instances Size

42/50 1.93G 1.072 0.5305 1.138 17 640: 100% ━━━━━━━━━━ 1638/1638 5.9it/s 4:39

Class Images Instances Box(P R mAP50 mAP50-95): 100% ━━━━━━━━━━ 19/19 5.8it/s 3.3s

all 591 981 0.867 0.783 0.85 0.506

Epoch GPU_mem box_loss cls_loss dfl_loss Instances Size

43/50 1.93G 1.049 0.517 1.124 19 640: 100% ━━━━━━━━━━ 1638/1638 5.8it/s 4:40

Class Images Instances Box(P R mAP50 mAP50-95): 100% ━━━━━━━━━━ 19/19 5.7it/s 3.3s

all 591 981 0.869 0.782 0.85 0.505

Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Size
44/50	1.93G	1.029	0.5044	1.113	22	640: 100% ━━━━━━━━ 1638/1638 5.8it/s 4:40
	Class	Images	Instances	Box(P	R	mAP50 mAP50-95): 100% ━━━━━━━━ 19/19 5.9it/s 3.2s
	all	591	981	0.873	0.781	0.853 0.506

Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Size
45/50	1.93G	1.011	0.4935	1.099	19	640: 100% ━━━━━━━━ 1638/1638 5.9it/s 4:40
	Class	Images	Instances	Box(P	R	mAP50 mAP50-95): 100% ━━━━━━━━ 19/19 6.1it/s 3.1s
	all	591	981	0.872	0.782	0.852 0.506

Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Size
46/50	1.93G	0.992	0.4821	1.088	19	640: 100% ━━━━━━━━ 1638/1638 5.9it/s 4:40
	Class	Images	Instances	Box(P	R	mAP50 mAP50-95): 100% ━━━━━━━━ 19/19 5.9it/s 3.2s
	all	591	981	0.875	0.781	0.853 0.508

Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Size
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47/50 1.93G 0.9704 0.4721 1.077 25 640: 100% ━━━━━━━━ 1638/1638 5.8it/s 4:40

Class	Images	Instances	Box(P)	R	mAP50	mAP50-95):	100%	19/19	6.0it/s	3.1s
all	591	981	0.871	0.784	0.852	0.507				

Epoch GPU_mem box_loss cls_loss dfl_loss Instances Size

48/50 1.93G 0.9555 0.4619 1.068 17 640: 100% ━━━━━━━━ 1638/1638 5.9it/s 4:39

Class	Images	Instances	Box(P)	R	mAP50	mAP50-95):	100%	19/19	5.9it/s	3.2s
all	591	981	0.871	0.784	0.852	0.507				

Epoch GPU_mem box_loss cls_loss dfl_loss Instances Size

49/50 1.93G 0.9424 0.4529 1.063 20 640: 100% ━━━━━━━━ 1638/1638 5.8it/s 4:40

Class	Images	Instances	Box(P)	R	mAP50	mAP50-95):	100%	19/19	5.8it/s	3.3s
all	591	981	0.874	0.782	0.851	0.507				

Epoch GPU_mem box_loss cls_loss dfl_loss Instances Size

50/50 1.93G 0.9291 0.4465 1.056 15 640: 100% ━━━━━━━━ 1638/1638 5.8it/s 4:40

Class	Images	Instances	Box(P)	R	mAP50	mAP50-95): 100%	19/19	5.9it/s	3.2s
all	591	981	0.875	0.782	0.851	0.508			

50 epochs completed in 3.985 hours.

Optimizer stripped from C:\Users\Faizan\Desktop\esp32_rover\runs\detect\runs\train\fire_model3\weights\last.pt, 6.2MB

Optimizer stripped from C:\Users\Faizan\Desktop\esp32_rover\runs\detect\runs\train\fire_model3\weights\best.pt, 6.2MB

Validating C:\Users\Faizan\Desktop\esp32_rover\runs\detect\runs\train\fire_model3\weights\best.pt...

Ultralytics 8.3.251 Python-3.12.2 torch-2.5.1+cu121 CUDA:0 (NVIDIA GeForce RTX 3050 Laptop GPU, 4096MiB)

Model summary (fused): 72 layers, 3,005,843 parameters, 0 gradients, 8.1 GFLOPs

Class	Images	Instances	Box(P)	R	mAP50	mAP50-95): 100%	19/19	4.8it/s	4.0s
all	591	981	0.875	0.781	0.853	0.508			

Speed: 0.2ms preprocess, 2.7ms inference, 0.0ms loss, 1.1ms postprocess per image

Results saved to C:\Users\Faizan\Desktop\esp32_rover\runs\detect\runs\train\fire_model3

Training complete!