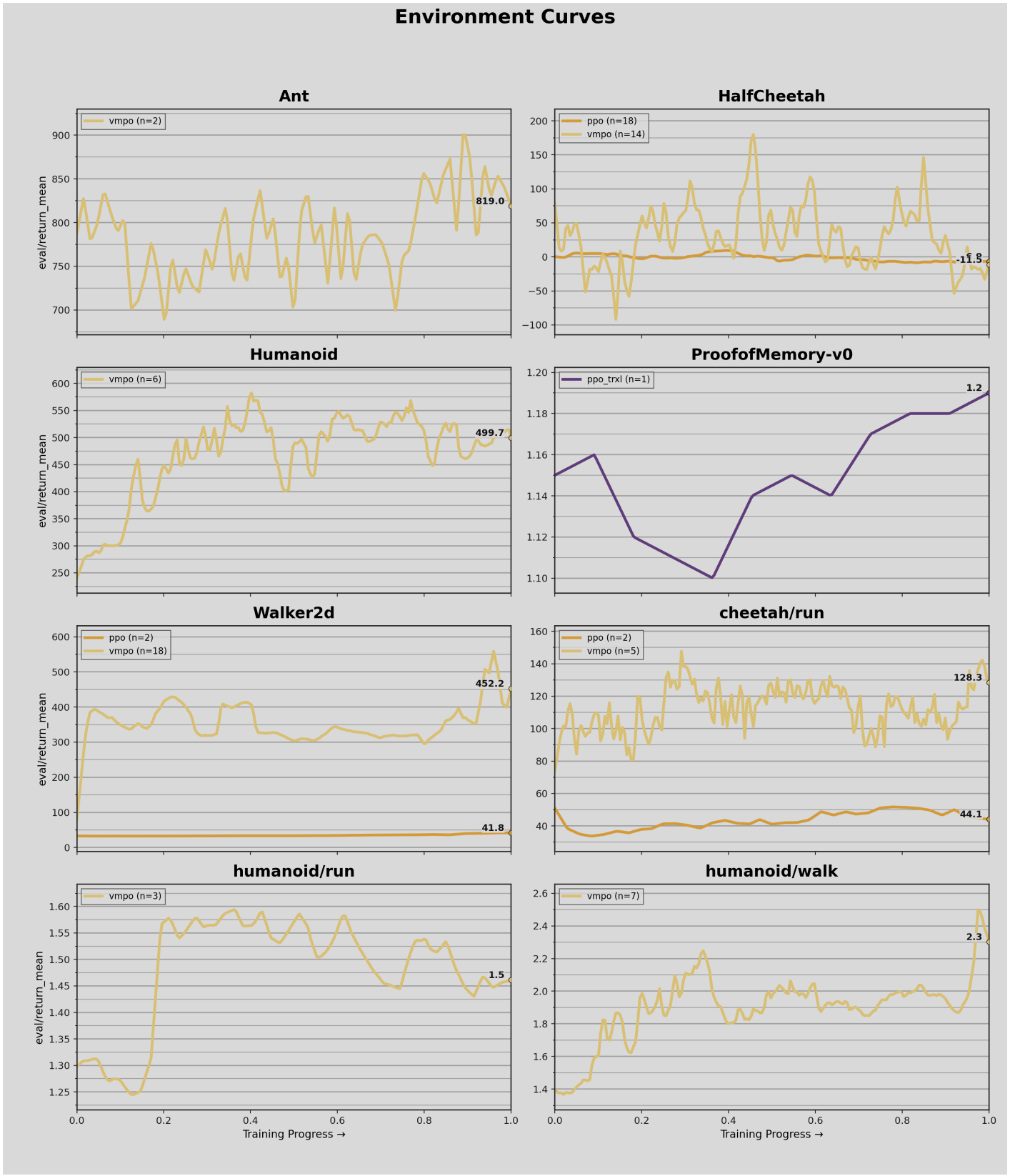
Contents

Report: `adrian-research/minerva-rl`

- Generated: 2026-02-14 14:03:24
- Included runs: 87 (`_step` > 10000)
- Algorithm key source: run config `command`
- Environment key source: run config `env`
- Metric: `eval/return_mean`



Each line is a time-weighted average across runs for a single environment and algorithm. Every run timeline is normalized to `[0, 1]`.

Max achieved table (`eval/return_max`, fallback to selected metric), reported as `max +/- std` across runs.

Environment	ppo	ppo_trxl	vmpo
Ant	-	-	969.4 +/- 75.6
HalfCheetah	74.3 +/- 38.3	-	1913.0 +/- 521.2
Humanoid	-	-	758.3 +/- 135.6
ProofofMemory-v0	-	1.4 +/- 0.0	-
Walker2d	67.5 +/- 15.2	-	1990.7 +/- 387.3
cheetah/run	55.9 +/- 2.0	-	245.9 +/- 72.4
humanoid/run	-	-	3.1 +/- 0.4
humanoid/walk	-	-	8.9 +/- 2.6

Hyperparameters by Algorithm

Rows are hyperparameters and columns are environments. If multiple runs differ for a cell, values are listed together.

ppo

Hyperparameter	HalfCheetah	Walker2d	cheetah/run
anneal_lr	True	True	True
clip_ratio	0.15 / 0.2	0.15	0.25
clip_vloss	True	True	True
critic_layer_sizes	[512,256] / [512,512,256] / [526,526,256]	[526,526,256]	[526,526,256]
device	None	None	None
ent_coef	0 / 0.0001 / 0.0003	0.0003	0.0001
eval_interval	10000	10000	10000
gae_lambda	0.95	0.95	0.95
gamma	0.99	0.99	0.99
generate_video	False	-	False
max_grad_norm	0.5 / 1 / 1.5	0.5	0.5
minibatch_size	128 / 256 / 512 / 64	512	256
norm_adv	True	True	True
normalize_obs	True	True	True
num_envs	1	1 / 16	1
optimizer_type	adam	adam	adam
policy_layer_sizes	[256,256,256] / [256,256]	[256,256,256]	[256,256,256]
policy_lr	0.0001 / 0.0002 / 0.0003	0.0001	0.0002
rollout_steps	1024 / 2048 / 512 / 8192	8192	2048
save_interval	1000000	1000000	1000000
seed	42	42	42
sgd_momentum	0.9	0.9	0.9
target_kl	0 / 0.02	0.02	0.02
total_steps	1000000 / 2000000	30000000	3000000
update_epochs	10 / 12 / 5 / 6	12	4
value_lr	0.0001 / 0.0003 / 2e-05 / 3e-05	2e-05	0.0003
vf_coef	0.5	0.5	1

ppo_trxl

Hyperparameter	ProofofMemory-v0
anneal_steps	163840000
clip_coef	0.2
clip_vloss	True
device	None
eval_interval	2048
final_ent_coef	1e-06
final_lr	1e-05

Hyperparameter	ProofofMemory-v0
gae_lambda	0.95
gamma	0.995
generate_video	False
init_ent_coef	0.001
init_lr	0.0003
max_grad_norm	0.5
norm_adv	False
num_envs	16
num_minibatches	8
num_steps	128
optimizer_type	None
reconstruction_coef	0
save_interval	8192
seed	42
sgd_momentum	None
target_kl	None
total_steps	25000
trxl_dim	64
trxl_memory_length	16
trxl_num_heads	1
trxl_num_layers	4
trxl_positional_encoding	none
update_epochs	4
vf_coef	0.1

vmpo

Hyperparameter	Ant	HalfCheetah	Humanoid	Walker2d	cheetah/run
advantage_estimator	returns	gae / returns	returns	returns	returns
alpha_lr	0.0001	0.0001 / 0.0003	0.0001 / 0.0003	0.0001	0.0001
device	None	None	None	None	None
epsilon_eta	0.25 / 0.7	0.25 / 0.7	0.05 / 0.25	0.25 / 0.7	0.1
epsilon_mu	0.05	0.05	0.05	0.05	0.05
epsilon_sigma	0.001	0.001	0.0003	0.001	0.0001 / 0.0006
eval_interval	10000	10000 / 20000	10000	10000 / 20000	10000 / 25000
gae_lambda	0.95	0.95	0.95	0.95	0.95
gamma	0.99	0.99	0.995	0.99	0.99
generate_video	False	False	False	False / True	False
max_grad_norm	0.5 / 1	0.5 / 1 / 1.5	0.5 / 1	0.5 / 1	1 / 2
normalize_advantages	True	False / True	False / True	True	True
num_envs	1	1 / 16	1	1	1 / 16
optimizer_type	adam	adam	adam	adam	adam
policy_layer_sizes	[256,256,256]	[256,256,256]	[256,256,256]	[256,256,256]	[256,256,256]
policy_lr	0.0001	0.0001 / 0.0002	0.0001 / 5e-05	0.0001	0.0002
popart_beta	-	0.0001	-	0.0001	-
popart_eps	-	1e-08	-	1e-08	-
popart_min_sigma	-	0.001	-	0.001	-
rollout_steps	1024 / 2048	1024 / 512 / 8192	1024 / 2048 / 4096	2048 / 4096	1024 / 2048 / 8192
save_interval	200000	200000	100000	200000	500000
seed	42	42	42	42	42
sgd_momentum	0.9	0.9	0.9	0.9	0.9
temperature_init	1 / 2	2	1 / 2	1 / 2	1 / 2
temperature_lr	0.001	0.001	0.0002 / 0.0005	0.001	0.0003
topk_fraction	0.2 / 0.4	0.2 / 0.25 / 0.4 / 0.45	0.1 / 0.3 / 0.4	0.4	0.25 / 0.4
total_steps	1000000	1000000 / 30000000	1000000 / 3000000	1000000 / 30000000	1000000 / 10000000
updates_per_step	1 / 2	1 / 2	1 / 2 / 4	1	2

Hyperparameter	Ant	HalfCheetah	Humanoid	Walker2d	cheetah/run
value_layer_sizes	[526,526,256]	[526,526,256]	[526,526,256]	[526,526,256]	[526,526,256]
value_lr	0.0003	0.0003	0.0001	0.0003	0.0003 / 5e-05

Summary

Environment	Algorithms	Runs
Ant	vmpo	2
HalfCheetah	ppo, vmpo	34
Humanoid	vmpo	6
ProofofMemory-v0	ppo_trxl	1
Walker2d	ppo, vmpo	26
cheetah/run	ppo, vmpo	8
humanoid/run	vmpo	3
humanoid/walk	vmpo	7

Ant

Algorithm	Averaged Runs	Total Weight (_step)
vmpo	2	704571

Run	Algorithm	_step	eval/return_mean
vmpo-Ant-v5-seed42	vmpo	53248	533.019
vmpo-Ant-v5-seed42	vmpo	651323	842.343

HalfCheetah

Algorithm	Averaged Runs	Total Weight (_step)
ppo	18	6724505
vmpo	14	9124016

Run	Algorithm	_step	eval/return_mean
ppo-HalfCheetah-v5-seed42	ppo	532480	-1.561
ppo-HalfCheetah-v5-seed42	ppo	579578	22.082
ppo-HalfCheetah-v5-seed42	ppo	346345	-41.511
ppo-HalfCheetah-v5-seed42	ppo	530529	-50.544
ppo-HalfCheetah-v5-seed42	ppo	409088	-53.791
ppo-HalfCheetah-v5-seed42	ppo	999424	22.714
ppo-HalfCheetah-v5-seed42	ppo	68067	24.149
ppo-HalfCheetah-v5-seed42	ppo	61060	-0.460
ppo-HalfCheetah-v5-seed42	ppo	1107105	-63.089
ppo-HalfCheetah-v5-seed42	ppo	10240	-
ppo-HalfCheetah-v5-seed42	ppo	190464	31.231
ppo-HalfCheetah-v5-seed42	ppo	411648	20.547
ppo-HalfCheetah-v5-seed42	ppo	749748	25.690
ppo-HalfCheetah-v5-seed42	ppo	501760	15.796
ppo-HalfCheetah-v5-seed42	ppo	64063	48.222
ppo-HalfCheetah-v5-seed42	ppo	40039	42.405
ppo-HalfCheetah-v5-seed42	ppo	19018	25.879

Run	Algorithm	_step	eval/return_mean
ppo-HalfCheetah-v5-seed42	ppo	88064	28.107
ppo-HalfCheetah-v5-seed42	ppo	26025	44.274
vmpo-HalfCheetah-v5-seed42	vmpo	163840	1536.114
vmpo-HalfCheetah-v5-seed42	vmpo	18000	-
vmpo-HalfCheetah-v5-seed42	vmpo	711000	320.989
vmpo-HalfCheetah-v5-seed42	vmpo	788000	530.685
vmpo-HalfCheetah-v5-seed42	vmpo	422000	36.728
vmpo-HalfCheetah-v5-seed42	vmpo	313000	0.675
vmpo-HalfCheetah-v5-seed42	vmpo	1000000	-24.521
vmpo-HalfCheetah-v5-seed42	vmpo	767488	-19.601
vmpo-HalfCheetah-v5-seed42	vmpo	1000000	-409.379
vmpo-HalfCheetah-v5-seed42	vmpo	1000000	3.394
vmpo-HalfCheetah-v5-seed42	vmpo	559616	14.871
vmpo-HalfCheetah-v5-seed42	vmpo	67072	-258.691
vmpo-HalfCheetah-v5-seed42	vmpo	501000	-254.775
vmpo-HalfCheetah-v5-seed42	vmpo	831000	-217.872
vmpo-HalfCheetah-v5-seed42	vmpo	1000000	-255.045

Humanoid

Algorithm	Averaged Runs	Total Weight (_step)
vmpo	6	3796874

Run	Algorithm	_step	eval/return_mean
vmpo-Humanoid-v5-seed42	vmpo	295474	485.636
vmpo-Humanoid-v5-seed42	vmpo	898435	504.766
vmpo-Humanoid-v5-seed42	vmpo	159671	445.997
vmpo-Humanoid-v5-seed42	vmpo	382212	357.155
vmpo-Humanoid-v5-seed42	vmpo	221159	407.310
vmpo-Humanoid-v5-seed42	vmpo	1839923	544.863

ProofofMemory-v0

Algorithm	Averaged Runs	Total Weight (_step)
ppo_trxl	1	24576

Run	Algorithm	_step	eval/return_mean
ppo_trxl-ProofofMemory-v0-seed42	ppo_trxl	24576	1.190

Walker2d

Algorithm	Averaged Runs	Total Weight (_step)
ppo	2	957327
vmpo	18	8015621

Run	Algorithm	_step	eval/return_mean
ppo-Walker2d-v5	ppo	703537	34.510
ppo-Walker2d-v5	ppo	253790	62.102
vmpo-Walker2d-v5	vmpo	577475	230.709
vmpo-Walker2d-v5	vmpo	762574	267.569
vmpo-Walker2d-v5	vmpo	497899	283.974
vmpo-Walker2d-v5	vmpo	737696	278.266
vmpo-Walker2d-v5	vmpo	226522	266.922
vmpo-Walker2d-v5	vmpo	686476	354.489
vmpo-Walker2d-v5	vmpo	538624	278.277
vmpo-Walker2d-v5-seed42	vmpo	259302	294.614
vmpo-Walker2d-v5-seed42	vmpo	189368	417.202
vmpo-Walker2d-v5-seed42	vmpo	1140000	204.173
vmpo-Walker2d-v5-seed42	vmpo	19994	-
vmpo-Walker2d-v5-seed42	vmpo	19994	-
vmpo-Walker2d-v5-seed42	vmpo	19994	-
vmpo-Walker2d-v5-seed42	vmpo	19994	-
vmpo-Walker2d-v5-seed42	vmpo	127577	287.175
vmpo-Walker2d-v5-seed42	vmpo	19994	-
vmpo-Walker2d-v5-seed42	vmpo	19994	-
vmpo-Walker2d-v5-seed42	vmpo	305948	302.183
vmpo-Walker2d-v5-seed42	vmpo	27150	98.533
vmpo-Walker2d-v5-seed42	vmpo	219647	280.702
vmpo-Walker2d-v5-seed42	vmpo	179773	286.567
vmpo-Walker2d-v5-seed42	vmpo	189881	371.672
vmpo-Walker2d-v5-seed42	vmpo	349709	388.438
vmpo-Walker2d-v5-seed42	vmpo	1000000	1647.857

cheetah/run

Algorithm	Averaged Runs	Total Weight (_step)
ppo	2	529552
vmpo	5	2584680

Run	Algorithm	_step	eval/return_mean
ppo-dm_control/cheetah/run-seed42	ppo	378000	41.902
ppo-dm_control/cheetah/run-seed42	ppo	10240	-
ppo-dm_control/cheetah/run-seed42	ppo	151552	49.499
vmpo-dm_control/cheetah/run-seed42	vmpo	196608	39.440
vmpo-dm_control/cheetah/run-seed42	vmpo	55000	55.377
vmpo-dm_control/cheetah/run-seed42	vmpo	481000	177.230
vmpo-dm_control/cheetah/run-seed42	vmpo	259072	26.290
vmpo-dm_control/cheetah/run-seed42	vmpo	1593000	143.589

humanoid/run

Algorithm	Averaged Runs	Total Weight (_step)
vmpo	3	1735000

Run	Algorithm	_step	eval/return_mean
vmpo-dm_control/humanoid/run-seed42	vmpo	824000	1.404
vmpo-dm_control/humanoid/run-seed42	vmpo	489000	1.527
vmpo-dm_control/humanoid/run-seed42	vmpo	422000	1.498

humanoid/walk

Algorithm	Averaged Runs	Total Weight (_step)
vmpo	7	4391032

Run	Algorithm	_step	eval/return_mean
vmpo-dm_control/humanoid/walk-seed42	vmpo	217000	1.260
vmpo-dm_control/humanoid/walk-seed42	vmpo	1196032	2.739
vmpo-dm_control/humanoid/walk-seed42	vmpo	240000	2.050
vmpo-dm_control/humanoid/walk-seed42	vmpo	299000	1.482
vmpo-dm_control/humanoid/walk-seed42	vmpo	889000	1.497
vmpo-dm_control/humanoid/walk-seed42	vmpo	50000	1.271
vmpo-dm_control/humanoid/walk-seed42	vmpo	1500000	2.820