



Progress

Carlos Padilla,

Project Progress

Carlos Padilla

ICN, UNAM

April 29, 2024



Task Execution Model

Progress

Carlos Padilla,

$$M_j = \left[I, t'_j, \Delta t_j, P_j^R, P_j^D \right], \left[W_j^R, W_j^D \right]$$



Reward Function - Part 1

Progress

Carlos Padilla,

$$\xi_j = S_j P_j e^{\left(\frac{t_j^E - t_j^R}{\sigma}\right)^2} P_j^D d_j g(k)$$



Overall Performance Metric

Progress

Carlos Padilla,

$$\xi = \sum_{j=1}^J \xi_j + \frac{\alpha}{N} \sum_{i=1}^N \left(\frac{E_i - E_L}{E_{max} - E_L} \right)$$



Sample Data

Progress

Carlos Padilla,

enigma deep-blue ../sql/sqlite python3 display_data_comms_rx.py							
ID	Start Time (UTC)	End Time (UTC)	Duration (s)	Power (W)	Voltage (V)	Priority T	Priority E
1	2024-04-24 03:42:34	2024-04-24 03:45:55	201	10.47	4.81	0.60	0.50
2	2024-04-23 04:38:34	2024-04-23 04:40:02	88	5.06	4.29	0.93	0.33
3	2024-04-24 14:03:34	2024-04-24 14:07:30	236	11.74	3.93	0.21	0.61
4	2024-04-24 18:12:34	2024-04-24 18:16:35	241	11.18	3.61	0.92	0.32
5	2024-04-25 16:56:34	2024-04-25 16:58:02	88	9.11	4.64	0.62	0.79
6	2024-04-26 00:52:34	2024-04-26 00:56:02	208	18.29	3.73	0.25	0.43
7	2024-04-25 10:26:34	2024-04-25 10:29:41	187	14.33	3.84	0.45	0.59
8	2024-04-27 00:44:34	2024-04-27 00:46:11	97	5.09	4.02	0.22	0.55
9	2024-04-27 17:12:34	2024-04-27 17:13:21	47	14.45	4.45	0.88	0.35
10	2024-04-27 16:10:34	2024-04-27 16:12:01	87	17.47	4.86	0.68	0.67
11	2024-04-28 00:33:34	2024-04-28 00:36:04	150	11.27	3.41	0.91	0.68
12	2024-04-29 04:09:34	2024-04-29 04:13:12	218	17.16	3.38	0.41	0.56
13	2024-04-28 21:59:34	2024-04-28 22:04:08	274	11.10	4.67	0.13	0.38
14	2024-04-29 19:19:34	2024-04-29 19:23:18	224	18.31	4.23	0.54	0.43
15	2024-04-30 00:10:34	2024-04-30 00:14:45	251	6.37	4.32	0.80	0.10
16	2024-04-30 17:34:34	2024-04-30 17:39:33	299	9.93	4.42	0.12	0.24
17	2024-04-30 11:47:34	2024-04-30 11:52:08	274	18.13	3.45	0.54	0.84
18	2024-05-01 02:21:34	2024-05-01 02:22:19	45	7.64	4.96	0.66	0.90
19	2024-05-01 21:36:34	2024-05-01 21:38:08	94	13.97	4.19	0.52	0.45
20	2024-05-01 18:29:34	2024-05-01 18:33:56	262	8.49	4.19	0.58	0.12



Sample Data: OBC

Progress

Carlos Padilla,

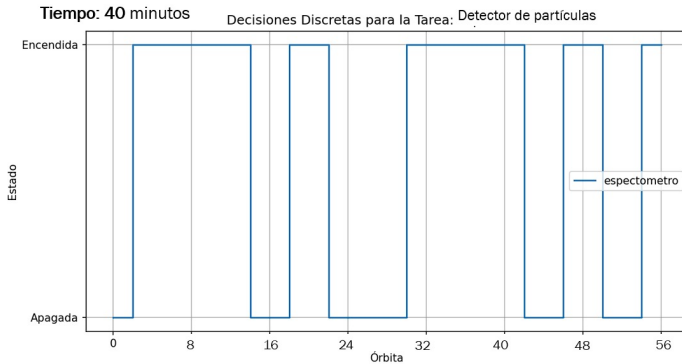




Sample Data: Particle Detector

Progress

Carlos Padilla,



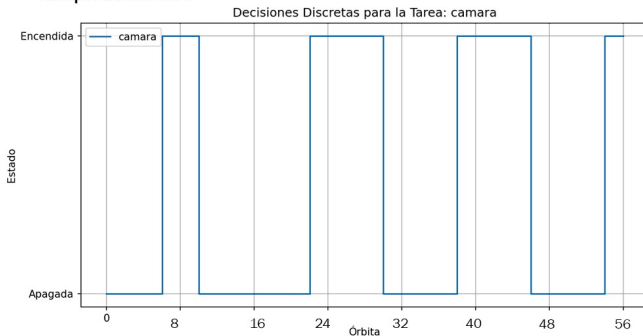


Sample Data: Camera

Progress

Carlos Padilla,

Tiempo: 28 minutos

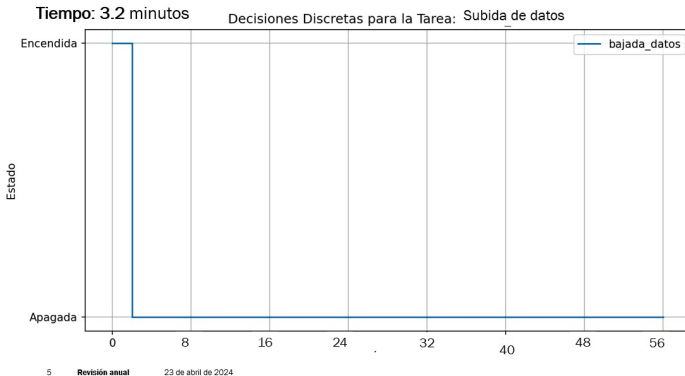




Data upload

Progress

Carlos Padilla,

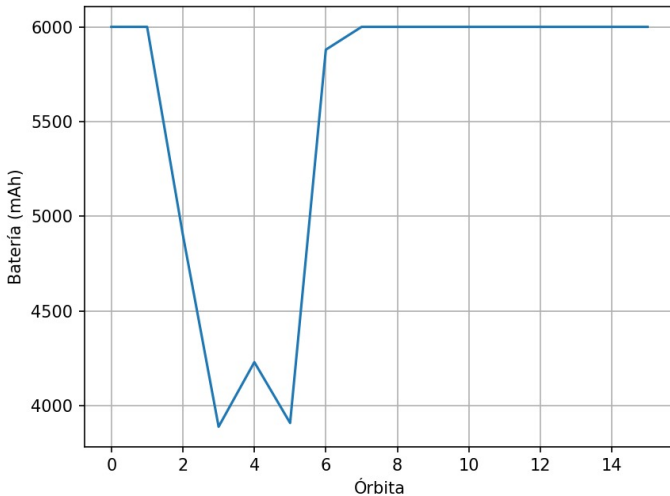




SoC

Progress

Carlos Padilla,

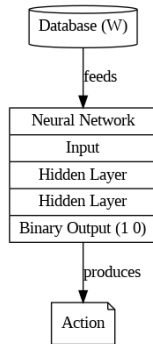




Design

Progress

Carlos Padilla,





Reward function's schema

Progress

Carlos Padilla,

