

| Environments       | P.&P.                     |                           | M.A.                        |                             |
|--------------------|---------------------------|---------------------------|-----------------------------|-----------------------------|
|                    | pepper                    | peach                     | pepper                      | peach                       |
| Supervised Fintune | 74.4                      | 43.8                      | 77.0                        | 79.0                        |
| RL w. ManiSkill    | 95.0<br>( $\uparrow$ .27) | 60.5<br>( $\uparrow$ .38) | 64.0<br>( $\downarrow$ .16) | 62.5<br>( $\downarrow$ .21) |
| RL w. World Model  | 93.1<br>( $\uparrow$ .25) | 64.6<br>( $\uparrow$ .47) | 85.9<br>( $\uparrow$ .11)   | 84.5<br>( $\uparrow$ .06)   |

| Dataset | Model      | Type | MAE $^{\downarrow}$ $\pm$ SD |
|---------|------------|------|------------------------------|
| CNN/DM  | BART-L     | N    | 19.2 $\pm$ 17                |
|         | RPE-BART-L | G    | 1.6 $\pm$ 3.6                |
|         | PRE-BART-L | G    | 0.5 $\pm$ 0.3                |
| XSum    | BART-L     | N    | 5.8 $\pm$ 5                  |
|         | RPE-BART-L | G    | 0.7 $\pm$ 1.1                |
|         | PRE-BART-L | G    | 0.1 $\pm$ 0.2                |

| Years in Field | Count |
|----------------|-------|
| <2 years       | 3     |
| 2-5 years      | 11    |
| 5-10 years     | 10    |
| 10+ years      | 6     |

|       | DiT LoRA     | ResNet       | AJ $\uparrow$ | DAVIS<br>< $\delta_{\text{avg}}^x \uparrow$ | OA $\uparrow$ |
|-------|--------------|--------------|---------------|---|---------------|
| (I)   | $\times$     | $\times$     | 32.2          | 50.0  | 61.6          |
| (II)  | $\times$     | $\checkmark$ | 37.9          | 60.4  | 60.9          |
| (III) | $\checkmark$ | $\times$     | 46.2          | 63.6  | <b>76.1</b>   |
| (IV)  | $\checkmark$ | $\checkmark$ | <b>50.2</b>   | <b>68.4</b>                                 | 75.0          |

| Encoder | Descriptor | Model  | NTU RGB+D 60 |              |
|---------|------------|--------|--------------|--------------|
|         |            |        | 55/5         | 48/12        |
| AA      | GPT3       | Global | 62.79        | 28.09        |
| AA      | GPT3       | Ours   | 76.75        | 32.39        |
| CTR     | GPT3       | Global | 65.16        | 34.56        |
| CTR     | GPT3       | Ours   | 79.97        | 39.42        |
| DG      | GPT3       | Global | 64.28        | 34.04        |
| DG      | GPT3       | Ours   | 80.41        | 41.06        |
| PoseC3D | GPT3       | Global | 63.45        | 35.71        |
| PoseC3D | GPT3       | Ours   | 81.14        | 41.60        |
| Shift   | GPT3       | Global | 64.69        | 35.46        |
| Shift   | GPT3       | Ours   | 79.23        | 40.99        |
| Shift   | GPT3.5     | Global | 66.49        | 38.01        |
| Shift   | GPT3.5     | Ours   | 79.17        | 40.98        |
| Shift   | GPT4       | Global | 64.71        | 40.76        |
| Shift   | GPT4       | Ours   | <b>81.53</b> | <b>41.90</b> |

| Video ID | Color   | StdDev | Avg   | Min   | Max   |
|----------|---------|--------|-------|-------|-------|
| GX010090 | GPLog   | 0.01   | 31.08 | 31.08 | 31.09 |
|          | linear  | 0.01   | 31.06 | 31.05 | 31.07 |
|          | sRGB    | 0.01   | 31.07 | 31.05 | 31.09 |
|          | TrueLog | 0.02   | 32.09 | 32.06 | 32.12 |
| GX010098 | GPLog   | 4.15   | 24.98 | 13.95 | 26.78 |
|          | linear  | 0.03   | 27.52 | 27.48 | 27.56 |
|          | sRGB    | 0.11   | 27.42 | 27.19 | 27.5  |
|          | TrueLog | 0.04   | 28.31 | 28.25 | 28.38 |
| GX010099 | GPLog   | 0.07   | 25.56 | 25.45 | 25.67 |
|          | linear  | 2.55   | 22.95 | 17.63 | 25.42 |
|          | sRGB    | 4.09   | 22.60 | 11.36 | 24.75 |
|          | TrueLog | 0.04   | 27.87 | 27.83 | 27.94 |
| GX010109 | GPLog   | 0.26   | 26.45 | 25.85 | 26.68 |
|          | linear  | 2.01   | 23.42 | 20.11 | 25.41 |
|          | sRGB    | 2.83   | 21.83 | 16.55 | 25.01 |
|          | TrueLog | 0.03   | 29.07 | 29.03 | 29.13 |

| Dataset   | ODE     |        | SDE     |        |
|-----------|---------|--------|---------|--------|
|           | Utility | Risk   | Utility | Risk   |
| UK        | 0.8333  | 0.4889 | 0.8306  | 0.4916 |
| Indonesia | 0.6671  | 0.4114 | 0.6629  | 0.4081 |
| Canada    | 0.7718  | 0.3207 | 0.7785  | 0.3152 |
| Fiji      | 0.7263  | 0.5705 | 0.7394  | 0.5664 |
| Rwanda    | 0.7284  | 0.5379 | 0.7353  | 0.5361 |
| Adult     | 0.7720  | 0.5443 | 0.7731  | 0.5508 |
| Churn     | 0.7966  | 0.0773 | 0.7986  | 0.0784 |

| $\beta$ | $\mathcal{S}$ |                   | $\mathcal{I}$ |                   |
|---------|---------------|-------------------|---------------|-------------------|
|         | $\tau_N = 2$  | $\tau_N = \infty$ | $\tau_N = 2$  | $\tau_N = \infty$ |
| 1       | 0.089         | 0.092             | 0.102         | 0.108             |
| 2       | 0.193         | 0.224             | 1.000         | 1.000             |
| 3       | 0.413         | 0.454             | 1.000         | 1.000             |

Read feeling require wind degree reflect. Per training world value else imagine.

| Outcome Category   | Count | Percentage |
|--------------------|-------|------------|
| Rank Degradations  | 31    | 10.7%      |
| Rank Unchanged     | 260   | 89.0%      |
| Failed Restoration | 1     | 0.3%       |
| Total Analyzed     | 292   |            |