

Table 10. MO-NAS

Methods	C-10/MOP1	C-10/MOP2	C-10/MOP3	C-10/MOP4	C-10/MOP5	C-10/MOP6	C-10/MOP7	C-10/MOP8	C-10/MOP9	IN-1K/MOP1	IN-1K/MOP2	IN-1K/MOP3	IN-1K/MOP4	IN-1K/MOP5	IN-1K/MOP6	IN-1K/MOP7	IN-1K/MOP8	IN-1K/MOP9	NasBench201-Test
$\mathcal{D}(\text{best})$	4.78	10.51	9.72	21.15	40.51	92.43	358.27	4.55	10.59	4.97	5.00	11.21	16.63	17.26	44.67	4.69	11.42	23.74	10.14
End-to-End	$4.83 \pm 0.00$	$10.47 \pm 0.00$	<b><math>10.86 \pm 0.00</math></b>	$26.17 \pm 0.00$	$50.18 \pm 0.00$	<u><math>112.49 \pm 0.00</math></u>	$522.71 \pm 0.00$	$4.66 \pm 0.00$	$10.45 \pm 0.00$	$4.78 \pm 0.00$	$4.96 \pm 0.00$	$10.57 \pm 0.00$	<u><math>17.15 \pm 0.00</math></u>	$17.85 \pm 0.00$	$45.82 \pm 0.00$	$4.89 \pm 0.00$	$10.60 \pm 0.00$	$23.30 \pm 0.00$	$10.30 \pm 0.02$
End-to-End + GradNorm	<u><math>4.84 \pm 0.01</math></u>	$10.52 \pm 0.00$	$10.81 \pm 0.02$	$26.44 \pm 0.13$	<b><math>50.62 \pm 0.01</math></b>	$112.17 \pm 0.08$	$524.44 \pm 1.78$	$4.55 \pm 0.09$	$10.54 \pm 0.44$	$5.19 \pm 0.02$	$5.05 \pm 0.03$	$11.14 \pm 0.13$	$17.10 \pm 0.06$	$17.72 \pm 0.03$	$45.21 \pm 0.06$	$4.72 \pm 0.03$	$10.44 \pm 0.06$	$22.54 \pm 0.02$	$9.20 \pm 1.17$
End-to-End + PcGrad	$4.84 \pm 0.00$	$10.50 \pm 0.01$	$10.81 \pm 0.02$	$26.37 \pm 0.05$	<u><math>50.55 \pm 0.07</math></u>	$111.51 \pm 0.09$	<u><math>526.85 \pm 1.13</math></u>	$4.38 \pm 0.05$	$10.53 \pm 0.66$	$4.86 \pm 0.04$	<b><math>5.22 \pm 0.00</math></b>	$11.24 \pm 0.06$	$16.88 \pm 0.00$	$17.69 \pm 0.00$	$44.52 \pm 0.01$	$4.72 \pm 0.00$	$11.30 \pm 0.27$	$24.07 \pm 0.11$	$9.14 \pm 1.24$
Multi-Head	$4.83 \pm 0.01$	$10.55 \pm 0.00$	$10.59 \pm 0.00$	<u><math>26.54 \pm 0.06</math></u>	$50.50 \pm 0.05$	<b><math>112.99 \pm 0.30</math></b>	<b><math>529.14 \pm 0.48</math></b>	$4.52 \pm 0.09$	$9.88 \pm 0.15$	<b><math>5.38 \pm 0.01</math></b>	$5.05 \pm 0.01$	<u><math>11.56 \pm 0.02</math></u>	$17.03 \pm 0.04$	<b><math>18.00 \pm 0.06</math></b>	<u><math>45.90 \pm 0.02</math></u>	$5.34 \pm 0.02$	$11.74 \pm 0.10$	$24.86 \pm 0.26$	$10.23 \pm 0.07$
Multi-Head + GradNorm	$4.84 \pm 0.00$	<u><math>10.57 \pm 0.03</math></u>	$9.59 \pm 0.01$	$23.47 \pm 0.12$	$49.49 \pm 0.62$	$107.76 \pm 0.09$	$499.69 \pm 3.16$	$4.41 \pm 0.21$	$10.19 \pm 0.61$	$4.66 \pm 0.02$	$4.37 \pm 0.02$	$10.40 \pm 0.24$	$16.80 \pm 0.09$	$17.74 \pm 0.01$	$44.49 \pm 0.61$	$4.90 \pm 0.07$	$8.11 \pm 0.27$	$17.78 \pm 0.01$	$10.46 \pm 0.11$
Multi-Head + PcGrad	$4.84 \pm 0.00$	$10.53 \pm 0.02$	$10.64 \pm 0.06$	$24.51 \pm 0.01$	$49.62 \pm 0.09$	$108.33 \pm 1.09$	$483.10 \pm 2.64$	$4.28 \pm 0.08$	$10.44 \pm 0.02$	$4.90 \pm 0.00$	$5.16 \pm 0.01$	$11.32 \pm 0.05$	$16.91 \pm 0.14$	$17.45 \pm 0.18$	$44.78 \pm 0.05$	$5.25 \pm 0.07$	$10.32 \pm 0.35$	$21.32 \pm 0.14$	<b><math>10.55 \pm 0.02</math></b>
Multiple Models	$4.82 \pm 0.00$	$10.54 \pm 0.00$	<u><math>10.83 \pm 0.01</math></u>	<b><math>26.61 \pm 0.01</math></b>	$50.22 \pm 0.01$	$111.92 \pm 0.10$	$525.51 \pm 0.46$	$4.75 \pm 0.04$	<u><math>11.25 \pm 0.13</math></u>	<u><math>5.34 \pm 0.00</math></u>	<u><math>5.22 \pm 0.01</math></u>	$11.53 \pm 0.04$	<b><math>17.19 \pm 0.04</math></b>	$17.82 \pm 0.00$	<b><math>46.02 \pm 0.04</math></b>	<b><math>5.64 \pm 0.11</math></b>	$11.86 \pm 0.12$	$25.00 \pm 0.34$	$10.46 \pm 0.11$
Multiple Models + COMs	$4.82 \pm 0.00$	$10.53 \pm 0.00$	$10.56 \pm 0.03$	$24.66 \pm 0.12$	$49.96 \pm 0.14$	$111.17 \pm 0.58$	$507.19 \pm 2.53$	<u><math>4.77 \pm 0.01</math></u>	$10.91 \pm 0.17$	$5.15 \pm 0.00$	$5.11 \pm 0.00$	$11.34 \pm 0.00$	$16.80 \pm 0.00$	$17.66 \pm 0.00$	$45.00 \pm 0.00$	$4.33 \pm 0.00$	$12.30 \pm 0.00$	$26.21 \pm 0.00$	$10.29 \pm 0.02$
Multiple Models + RoMA	$4.81 \pm 0.01$	$10.53 \pm 0.02$	$10.53 \pm 0.03$	$24.89 \pm 0.09$	$50.04 \pm 0.07$	$106.93 \pm 1.73$	$506.10 \pm 2.55$	$4.37 \pm 0.04$	$10.20 \pm 0.00$	$5.25 \pm 0.00$	$5.18 \pm 0.00$	$11.37 \pm 0.00$	$17.03 \pm 0.00$	$17.72 \pm 0.00$	$45.38 \pm 0.00$	<u><math>5.55 \pm 0.00</math></u>	<b><math>12.41 \pm 0.00</math></b>	<u><math>26.41 \pm 0.00</math></u>	/
Multiple Models + IOM	<b><math>4.85 \pm 0.00</math></b>	/	$10.72 \pm 0.00$	$25.68 \pm 0.00$	$50.52 \pm 0.00$	$112.36 \pm 0.00$	$525.51 \pm 0.00$	<b><math>4.84 \pm 0.00</math></b>	<b><math>11.50 \pm 0.00</math></b>	$5.27 \pm 0.00$	$5.19 \pm 0.00$	<b><math>11.63 \pm 0.00</math></b>	$17.00 \pm 0.00$	<u><math>17.86 \pm 0.00</math></u>	$45.54 \pm 0.00$	$4.77 \pm 0.00$	<u><math>12.38 \pm 0.00</math></u>	<b><math>26.56 \pm 0.00</math></b>	/
Multiple Models + ICT	$4.42 \pm 0.36$	$10.51 \pm 0.01$	$10.01 \pm 0.03$	$24.49 \pm 0.04$	$48.33 \pm 0.35$	$104.07 \pm 1.13$	$477.25 \pm 1.44$	$3.79 \pm 0.14$	$7.93 \pm 0.22$	$4.80 \pm 0.02$	$4.74 \pm 0.11$	$10.17 \pm 0.26$	$16.53 \pm 0.31$	$16.79 \pm 0.74$	$45.41 \pm 0.20$	$4.68 \pm 0.08$	$11.66 \pm 0.08$	$21.99 \pm 0.31$	/
Multiple Models + Tri-Mentoring	$4.06 \pm 0.00$	$7.77 \pm 0.01$	$9.48 \pm 0.17$	$23.83 \pm 0.10$	$49.43 \pm 0.41$	$110.23 \pm 0.25$	$484.17 \pm 0.37$	$3.27 \pm 0.13$	$9.23 \pm 1.01$	$5.17 \pm 0.00$	$5.08 \pm 0.00$	$9.82 \pm 0.00$	$15.40 \pm 0.00$	$15.99 \pm 0.00$	$45.54 \pm 0.00$	$4.74 \pm 0.00$	$10.52 \pm 0.00$	$23.66 \pm 0.00$	/
MOBO	$4.82 \pm 0.02$	<b><math>10.58 \pm 0.01</math></b>	$10.70 \pm 0.00$	$26.35 \pm 0.27$	$50.32 \pm 0.01$	$111.28 \pm 0.58$	$488.97 \pm 4.01$	$4.71 \pm 0.00$	$11.11 \pm 0.03$	$5.25 \pm 0.04$	$5.16 \pm 0.02$	$11.24 \pm 0.03$	$16.74 \pm 0.05$	$17.56 \pm 0.10$	$44.44 \pm 0.06$	$5.21 \pm 0.02$	$12.33 \pm 0.14$	$25.65 \pm 0.03$	<u><math>10.49 \pm 0.01</math></u>
MOBO-ParEGO	$4.81 \pm 0.00$	$10.51 \pm 0.02$	$9.11 \pm 0.00$	$20.14 \pm 0.00$	$37.74 \pm 0.00$	$101.32 \pm 0.00$	$354.68 \pm 0.00$	$4.56 \pm 0.00$	$10.67 \pm 0.00$	$4.63 \pm 0.04$	$4.63 \pm 0.02$	$10.49 \pm 0.21$	$16.54 \pm 0.00$	$17.41 \pm 0.05$	$44.42 \pm 0.03$	$4.87 \pm 0.00$	$11.01 \pm 0.09$	$23.93 \pm 0.06$	/
MOBO-JES	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	/