----------------------------------------------------------------

Layer (type) Output Shape Param #

================================================================

Conv2d-1 [-1, 64, 480, 1536] 2,944

BatchNorm2d-2 [-1, 64, 480, 1536] 128

ReLU-3 [-1, 64, 480, 1536] 0

Conv2d-4 [-1, 64, 480, 1536] 36,928

BatchNorm2d-5 [-1, 64, 480, 1536] 128

ReLU-6 [-1, 64, 480, 1536] 0

double\_conv-7 [-1, 64, 480, 1536] 0

MaxPool2d-8 [-1, 64, 240, 768] 0

Conv2d-9 [-1, 128, 240, 768] 73,856

BatchNorm2d-10 [-1, 128, 240, 768] 256

ReLU-11 [-1, 128, 240, 768] 0

Conv2d-12 [-1, 128, 240, 768] 147,584

BatchNorm2d-13 [-1, 128, 240, 768] 256

ReLU-14 [-1, 128, 240, 768] 0

double\_conv-15 [-1, 128, 240, 768] 0

MaxPool2d-16 [-1, 128, 120, 384] 0

Conv2d-17 [-1, 512, 120, 384] 590,336

BatchNorm2d-18 [-1, 512, 120, 384] 1,024

ReLU-19 [-1, 512, 120, 384] 0

Conv2d-20 [-1, 512, 120, 384] 2,359,808

BatchNorm2d-21 [-1, 512, 120, 384] 1,024

ReLU-22 [-1, 512, 120, 384] 0

double\_conv-23 [-1, 512, 120, 384] 0

MaxPool2d-24 [-1, 512, 60, 192] 0

Conv2d-25 [-1, 1024, 60, 192] 4,719,616

BatchNorm2d-26 [-1, 1024, 60, 192] 2,048

ReLU-27 [-1, 1024, 60, 192] 0

Conv2d-28 [-1, 1024, 60, 192] 9,438,208

BatchNorm2d-29 [-1, 1024, 60, 192] 2,048

ReLU-30 [-1, 1024, 60, 192] 0

double\_conv-31 [-1, 1024, 60, 192] 0

MaxPool2d-32 [-1, 1024, 30, 96] 0

ZeroPad2d-33 [-1, 3, 481, 1153] 0

Conv2dStaticSamePadding-34 [-1, 32, 240, 576] 864

BatchNorm2d-35 [-1, 32, 240, 576] 64

MemoryEfficientSwish-36 [-1, 32, 240, 576] 0

ZeroPad2d-37 [-1, 32, 242, 578] 0

Conv2dStaticSamePadding-38 [-1, 32, 240, 576] 288

BatchNorm2d-39 [-1, 32, 240, 576] 64

MemoryEfficientSwish-40 [-1, 32, 240, 576] 0

Identity-41 [-1, 32, 1, 1] 0

Conv2dStaticSamePadding-42 [-1, 8, 1, 1] 264

MemoryEfficientSwish-43 [-1, 8, 1, 1] 0

Identity-44 [-1, 8, 1, 1] 0

Conv2dStaticSamePadding-45 [-1, 32, 1, 1] 288

Identity-46 [-1, 32, 240, 576] 0

Conv2dStaticSamePadding-47 [-1, 16, 240, 576] 512

BatchNorm2d-48 [-1, 16, 240, 576] 32

MBConvBlock-49 [-1, 16, 240, 576] 0

Identity-50 [-1, 16, 240, 576] 0

Conv2dStaticSamePadding-51 [-1, 96, 240, 576] 1,536

BatchNorm2d-52 [-1, 96, 240, 576] 192

MemoryEfficientSwish-53 [-1, 96, 240, 576] 0

ZeroPad2d-54 [-1, 96, 241, 577] 0

Conv2dStaticSamePadding-55 [-1, 96, 120, 288] 864

BatchNorm2d-56 [-1, 96, 120, 288] 192

MemoryEfficientSwish-57 [-1, 96, 120, 288] 0

Identity-58 [-1, 96, 1, 1] 0

Conv2dStaticSamePadding-59 [-1, 4, 1, 1] 388

MemoryEfficientSwish-60 [-1, 4, 1, 1] 0

Identity-61 [-1, 4, 1, 1] 0

Conv2dStaticSamePadding-62 [-1, 96, 1, 1] 480

Identity-63 [-1, 96, 120, 288] 0

Conv2dStaticSamePadding-64 [-1, 24, 120, 288] 2,304

BatchNorm2d-65 [-1, 24, 120, 288] 48

MBConvBlock-66 [-1, 24, 120, 288] 0

Identity-67 [-1, 24, 120, 288] 0

Conv2dStaticSamePadding-68 [-1, 144, 120, 288] 3,456

BatchNorm2d-69 [-1, 144, 120, 288] 288

MemoryEfficientSwish-70 [-1, 144, 120, 288] 0

ZeroPad2d-71 [-1, 144, 122, 290] 0

Conv2dStaticSamePadding-72 [-1, 144, 120, 288] 1,296

BatchNorm2d-73 [-1, 144, 120, 288] 288

MemoryEfficientSwish-74 [-1, 144, 120, 288] 0

Identity-75 [-1, 144, 1, 1] 0

Conv2dStaticSamePadding-76 [-1, 6, 1, 1] 870

MemoryEfficientSwish-77 [-1, 6, 1, 1] 0

Identity-78 [-1, 6, 1, 1] 0

Conv2dStaticSamePadding-79 [-1, 144, 1, 1] 1,008

Identity-80 [-1, 144, 120, 288] 0

Conv2dStaticSamePadding-81 [-1, 24, 120, 288] 3,456

BatchNorm2d-82 [-1, 24, 120, 288] 48

MBConvBlock-83 [-1, 24, 120, 288] 0

Identity-84 [-1, 24, 120, 288] 0

Conv2dStaticSamePadding-85 [-1, 144, 120, 288] 3,456

BatchNorm2d-86 [-1, 144, 120, 288] 288

MemoryEfficientSwish-87 [-1, 144, 120, 288] 0

ZeroPad2d-88 [-1, 144, 123, 291] 0

Conv2dStaticSamePadding-89 [-1, 144, 60, 144] 3,600

BatchNorm2d-90 [-1, 144, 60, 144] 288

MemoryEfficientSwish-91 [-1, 144, 60, 144] 0

Identity-92 [-1, 144, 1, 1] 0

Conv2dStaticSamePadding-93 [-1, 6, 1, 1] 870

MemoryEfficientSwish-94 [-1, 6, 1, 1] 0

Identity-95 [-1, 6, 1, 1] 0

Conv2dStaticSamePadding-96 [-1, 144, 1, 1] 1,008

Identity-97 [-1, 144, 60, 144] 0

Conv2dStaticSamePadding-98 [-1, 40, 60, 144] 5,760

BatchNorm2d-99 [-1, 40, 60, 144] 80

MBConvBlock-100 [-1, 40, 60, 144] 0

Identity-101 [-1, 40, 60, 144] 0

Conv2dStaticSamePadding-102 [-1, 240, 60, 144] 9,600

BatchNorm2d-103 [-1, 240, 60, 144] 480

MemoryEfficientSwish-104 [-1, 240, 60, 144] 0

ZeroPad2d-105 [-1, 240, 64, 148] 0

Conv2dStaticSamePadding-106 [-1, 240, 60, 144] 6,000

BatchNorm2d-107 [-1, 240, 60, 144] 480

MemoryEfficientSwish-108 [-1, 240, 60, 144] 0

Identity-109 [-1, 240, 1, 1] 0

Conv2dStaticSamePadding-110 [-1, 10, 1, 1] 2,410

MemoryEfficientSwish-111 [-1, 10, 1, 1] 0

Identity-112 [-1, 10, 1, 1] 0

Conv2dStaticSamePadding-113 [-1, 240, 1, 1] 2,640

Identity-114 [-1, 240, 60, 144] 0

Conv2dStaticSamePadding-115 [-1, 40, 60, 144] 9,600

BatchNorm2d-116 [-1, 40, 60, 144] 80

MBConvBlock-117 [-1, 40, 60, 144] 0

Identity-118 [-1, 40, 60, 144] 0

Conv2dStaticSamePadding-119 [-1, 240, 60, 144] 9,600

BatchNorm2d-120 [-1, 240, 60, 144] 480

MemoryEfficientSwish-121 [-1, 240, 60, 144] 0

ZeroPad2d-122 [-1, 240, 61, 145] 0

Conv2dStaticSamePadding-123 [-1, 240, 30, 72] 2,160

BatchNorm2d-124 [-1, 240, 30, 72] 480

MemoryEfficientSwish-125 [-1, 240, 30, 72] 0

Identity-126 [-1, 240, 1, 1] 0

Conv2dStaticSamePadding-127 [-1, 10, 1, 1] 2,410

MemoryEfficientSwish-128 [-1, 10, 1, 1] 0

Identity-129 [-1, 10, 1, 1] 0

Conv2dStaticSamePadding-130 [-1, 240, 1, 1] 2,640

Identity-131 [-1, 240, 30, 72] 0

Conv2dStaticSamePadding-132 [-1, 80, 30, 72] 19,200

BatchNorm2d-133 [-1, 80, 30, 72] 160

MBConvBlock-134 [-1, 80, 30, 72] 0

Identity-135 [-1, 80, 30, 72] 0

Conv2dStaticSamePadding-136 [-1, 480, 30, 72] 38,400

BatchNorm2d-137 [-1, 480, 30, 72] 960

MemoryEfficientSwish-138 [-1, 480, 30, 72] 0

ZeroPad2d-139 [-1, 480, 32, 74] 0

Conv2dStaticSamePadding-140 [-1, 480, 30, 72] 4,320

BatchNorm2d-141 [-1, 480, 30, 72] 960

MemoryEfficientSwish-142 [-1, 480, 30, 72] 0

Identity-143 [-1, 480, 1, 1] 0

Conv2dStaticSamePadding-144 [-1, 20, 1, 1] 9,620

MemoryEfficientSwish-145 [-1, 20, 1, 1] 0

Identity-146 [-1, 20, 1, 1] 0

Conv2dStaticSamePadding-147 [-1, 480, 1, 1] 10,080

Identity-148 [-1, 480, 30, 72] 0

Conv2dStaticSamePadding-149 [-1, 80, 30, 72] 38,400

BatchNorm2d-150 [-1, 80, 30, 72] 160

MBConvBlock-151 [-1, 80, 30, 72] 0

Identity-152 [-1, 80, 30, 72] 0

Conv2dStaticSamePadding-153 [-1, 480, 30, 72] 38,400

BatchNorm2d-154 [-1, 480, 30, 72] 960

MemoryEfficientSwish-155 [-1, 480, 30, 72] 0

ZeroPad2d-156 [-1, 480, 32, 74] 0

Conv2dStaticSamePadding-157 [-1, 480, 30, 72] 4,320

BatchNorm2d-158 [-1, 480, 30, 72] 960

MemoryEfficientSwish-159 [-1, 480, 30, 72] 0

Identity-160 [-1, 480, 1, 1] 0

Conv2dStaticSamePadding-161 [-1, 20, 1, 1] 9,620

MemoryEfficientSwish-162 [-1, 20, 1, 1] 0

Identity-163 [-1, 20, 1, 1] 0

Conv2dStaticSamePadding-164 [-1, 480, 1, 1] 10,080

Identity-165 [-1, 480, 30, 72] 0

Conv2dStaticSamePadding-166 [-1, 80, 30, 72] 38,400

BatchNorm2d-167 [-1, 80, 30, 72] 160

MBConvBlock-168 [-1, 80, 30, 72] 0

Identity-169 [-1, 80, 30, 72] 0

Conv2dStaticSamePadding-170 [-1, 480, 30, 72] 38,400

BatchNorm2d-171 [-1, 480, 30, 72] 960

MemoryEfficientSwish-172 [-1, 480, 30, 72] 0

ZeroPad2d-173 [-1, 480, 34, 76] 0

Conv2dStaticSamePadding-174 [-1, 480, 30, 72] 12,000

BatchNorm2d-175 [-1, 480, 30, 72] 960

MemoryEfficientSwish-176 [-1, 480, 30, 72] 0

Identity-177 [-1, 480, 1, 1] 0

Conv2dStaticSamePadding-178 [-1, 20, 1, 1] 9,620

MemoryEfficientSwish-179 [-1, 20, 1, 1] 0

Identity-180 [-1, 20, 1, 1] 0

Conv2dStaticSamePadding-181 [-1, 480, 1, 1] 10,080

Identity-182 [-1, 480, 30, 72] 0

Conv2dStaticSamePadding-183 [-1, 112, 30, 72] 53,760

BatchNorm2d-184 [-1, 112, 30, 72] 224

MBConvBlock-185 [-1, 112, 30, 72] 0

Identity-186 [-1, 112, 30, 72] 0

Conv2dStaticSamePadding-187 [-1, 672, 30, 72] 75,264

BatchNorm2d-188 [-1, 672, 30, 72] 1,344

MemoryEfficientSwish-189 [-1, 672, 30, 72] 0

ZeroPad2d-190 [-1, 672, 34, 76] 0

Conv2dStaticSamePadding-191 [-1, 672, 30, 72] 16,800

BatchNorm2d-192 [-1, 672, 30, 72] 1,344

MemoryEfficientSwish-193 [-1, 672, 30, 72] 0

Identity-194 [-1, 672, 1, 1] 0

Conv2dStaticSamePadding-195 [-1, 28, 1, 1] 18,844

MemoryEfficientSwish-196 [-1, 28, 1, 1] 0

Identity-197 [-1, 28, 1, 1] 0

Conv2dStaticSamePadding-198 [-1, 672, 1, 1] 19,488

Identity-199 [-1, 672, 30, 72] 0

Conv2dStaticSamePadding-200 [-1, 112, 30, 72] 75,264

BatchNorm2d-201 [-1, 112, 30, 72] 224

MBConvBlock-202 [-1, 112, 30, 72] 0

Identity-203 [-1, 112, 30, 72] 0

Conv2dStaticSamePadding-204 [-1, 672, 30, 72] 75,264

BatchNorm2d-205 [-1, 672, 30, 72] 1,344

MemoryEfficientSwish-206 [-1, 672, 30, 72] 0

ZeroPad2d-207 [-1, 672, 34, 76] 0

Conv2dStaticSamePadding-208 [-1, 672, 30, 72] 16,800

BatchNorm2d-209 [-1, 672, 30, 72] 1,344

MemoryEfficientSwish-210 [-1, 672, 30, 72] 0

Identity-211 [-1, 672, 1, 1] 0

Conv2dStaticSamePadding-212 [-1, 28, 1, 1] 18,844

MemoryEfficientSwish-213 [-1, 28, 1, 1] 0

Identity-214 [-1, 28, 1, 1] 0

Conv2dStaticSamePadding-215 [-1, 672, 1, 1] 19,488

Identity-216 [-1, 672, 30, 72] 0

Conv2dStaticSamePadding-217 [-1, 112, 30, 72] 75,264

BatchNorm2d-218 [-1, 112, 30, 72] 224

MBConvBlock-219 [-1, 112, 30, 72] 0

Identity-220 [-1, 112, 30, 72] 0

Conv2dStaticSamePadding-221 [-1, 672, 30, 72] 75,264

BatchNorm2d-222 [-1, 672, 30, 72] 1,344

MemoryEfficientSwish-223 [-1, 672, 30, 72] 0

ZeroPad2d-224 [-1, 672, 33, 75] 0

Conv2dStaticSamePadding-225 [-1, 672, 15, 36] 16,800

BatchNorm2d-226 [-1, 672, 15, 36] 1,344

MemoryEfficientSwish-227 [-1, 672, 15, 36] 0

Identity-228 [-1, 672, 1, 1] 0

Conv2dStaticSamePadding-229 [-1, 28, 1, 1] 18,844

MemoryEfficientSwish-230 [-1, 28, 1, 1] 0

Identity-231 [-1, 28, 1, 1] 0

Conv2dStaticSamePadding-232 [-1, 672, 1, 1] 19,488

Identity-233 [-1, 672, 15, 36] 0

Conv2dStaticSamePadding-234 [-1, 192, 15, 36] 129,024

BatchNorm2d-235 [-1, 192, 15, 36] 384

MBConvBlock-236 [-1, 192, 15, 36] 0

Identity-237 [-1, 192, 15, 36] 0

Conv2dStaticSamePadding-238 [-1, 1152, 15, 36] 221,184

BatchNorm2d-239 [-1, 1152, 15, 36] 2,304

MemoryEfficientSwish-240 [-1, 1152, 15, 36] 0

ZeroPad2d-241 [-1, 1152, 19, 40] 0

Conv2dStaticSamePadding-242 [-1, 1152, 15, 36] 28,800

BatchNorm2d-243 [-1, 1152, 15, 36] 2,304

MemoryEfficientSwish-244 [-1, 1152, 15, 36] 0

Identity-245 [-1, 1152, 1, 1] 0

Conv2dStaticSamePadding-246 [-1, 48, 1, 1] 55,344

MemoryEfficientSwish-247 [-1, 48, 1, 1] 0

Identity-248 [-1, 48, 1, 1] 0

Conv2dStaticSamePadding-249 [-1, 1152, 1, 1] 56,448

Identity-250 [-1, 1152, 15, 36] 0

Conv2dStaticSamePadding-251 [-1, 192, 15, 36] 221,184

BatchNorm2d-252 [-1, 192, 15, 36] 384

MBConvBlock-253 [-1, 192, 15, 36] 0

Identity-254 [-1, 192, 15, 36] 0

Conv2dStaticSamePadding-255 [-1, 1152, 15, 36] 221,184

BatchNorm2d-256 [-1, 1152, 15, 36] 2,304

MemoryEfficientSwish-257 [-1, 1152, 15, 36] 0

ZeroPad2d-258 [-1, 1152, 19, 40] 0

Conv2dStaticSamePadding-259 [-1, 1152, 15, 36] 28,800

BatchNorm2d-260 [-1, 1152, 15, 36] 2,304

MemoryEfficientSwish-261 [-1, 1152, 15, 36] 0

Identity-262 [-1, 1152, 1, 1] 0

Conv2dStaticSamePadding-263 [-1, 48, 1, 1] 55,344

MemoryEfficientSwish-264 [-1, 48, 1, 1] 0

Identity-265 [-1, 48, 1, 1] 0

Conv2dStaticSamePadding-266 [-1, 1152, 1, 1] 56,448

Identity-267 [-1, 1152, 15, 36] 0

Conv2dStaticSamePadding-268 [-1, 192, 15, 36] 221,184

BatchNorm2d-269 [-1, 192, 15, 36] 384

MBConvBlock-270 [-1, 192, 15, 36] 0

Identity-271 [-1, 192, 15, 36] 0

Conv2dStaticSamePadding-272 [-1, 1152, 15, 36] 221,184

BatchNorm2d-273 [-1, 1152, 15, 36] 2,304

MemoryEfficientSwish-274 [-1, 1152, 15, 36] 0

ZeroPad2d-275 [-1, 1152, 19, 40] 0

Conv2dStaticSamePadding-276 [-1, 1152, 15, 36] 28,800

BatchNorm2d-277 [-1, 1152, 15, 36] 2,304

MemoryEfficientSwish-278 [-1, 1152, 15, 36] 0

Identity-279 [-1, 1152, 1, 1] 0

Conv2dStaticSamePadding-280 [-1, 48, 1, 1] 55,344

MemoryEfficientSwish-281 [-1, 48, 1, 1] 0

Identity-282 [-1, 48, 1, 1] 0

Conv2dStaticSamePadding-283 [-1, 1152, 1, 1] 56,448

Identity-284 [-1, 1152, 15, 36] 0

Conv2dStaticSamePadding-285 [-1, 192, 15, 36] 221,184

BatchNorm2d-286 [-1, 192, 15, 36] 384

MBConvBlock-287 [-1, 192, 15, 36] 0

Identity-288 [-1, 192, 15, 36] 0

Conv2dStaticSamePadding-289 [-1, 1152, 15, 36] 221,184

BatchNorm2d-290 [-1, 1152, 15, 36] 2,304

MemoryEfficientSwish-291 [-1, 1152, 15, 36] 0

ZeroPad2d-292 [-1, 1152, 17, 38] 0

Conv2dStaticSamePadding-293 [-1, 1152, 15, 36] 10,368

BatchNorm2d-294 [-1, 1152, 15, 36] 2,304

MemoryEfficientSwish-295 [-1, 1152, 15, 36] 0

Identity-296 [-1, 1152, 1, 1] 0

Conv2dStaticSamePadding-297 [-1, 48, 1, 1] 55,344

MemoryEfficientSwish-298 [-1, 48, 1, 1] 0

Identity-299 [-1, 48, 1, 1] 0

Conv2dStaticSamePadding-300 [-1, 1152, 1, 1] 56,448

Identity-301 [-1, 1152, 15, 36] 0

Conv2dStaticSamePadding-302 [-1, 320, 15, 36] 368,640

BatchNorm2d-303 [-1, 320, 15, 36] 640

MBConvBlock-304 [-1, 320, 15, 36] 0

Identity-305 [-1, 320, 15, 36] 0

Conv2dStaticSamePadding-306 [-1, 1280, 15, 36] 409,600

BatchNorm2d-307 [-1, 1280, 15, 36] 2,560

MemoryEfficientSwish-308 [-1, 1280, 15, 36] 0

Upsample-309 [-1, 1282, 30, 88] 0

Conv2d-310 [-1, 512, 30, 96] 10,626,560

BatchNorm2d-311 [-1, 512, 30, 96] 1,024

ReLU-312 [-1, 512, 30, 96] 0

Conv2d-313 [-1, 512, 30, 96] 2,359,808

BatchNorm2d-314 [-1, 512, 30, 96] 1,024

ReLU-315 [-1, 512, 30, 96] 0

double\_conv-316 [-1, 512, 30, 96] 0

up-317 [-1, 512, 30, 96] 0

Upsample-318 [-1, 512, 60, 192] 0

Conv2d-319 [-1, 256, 60, 192] 2,359,552

BatchNorm2d-320 [-1, 256, 60, 192] 512

ReLU-321 [-1, 256, 60, 192] 0

Conv2d-322 [-1, 256, 60, 192] 590,080

BatchNorm2d-323 [-1, 256, 60, 192] 512

ReLU-324 [-1, 256, 60, 192] 0

double\_conv-325 [-1, 256, 60, 192] 0

up-326 [-1, 256, 60, 192] 0

Conv2d-327 [-1, 8, 60, 192] 2,056

================================================================

Total params: 37,324,868

Trainable params: 37,324,868

Non-trainable params: 0

----------------------------------------------------------------

Input size (MB): 8.44

Forward/backward pass size (MB): 8508.51

Params size (MB): 142.38

Estimated Total Size (MB): 8659.33

Input Image batch shape is torch.Size([1, 3, 480, 1536])

Input Mask batch shape is torch.Size([1, 60, 192])

Input regr batch shape is torch.Size([1, 7, 60, 192])

Input shape to Unet torch.Size([1, 3, 480, 1536])

mesh1 shape torch.Size([1, 2, 480, 1536])

Input shape to Efficient Net B0 torch.Size([1, 3, 480, 1152])