Batch Runtime for One Optimizer Pass 80 Full Parameter LoRA 70 Adapter **BitFit** 60 Out of Memory Time (ms) 30 30 GPT-2 GPT-2 XL 20 \$59.03x 7.99× 44.52× 106.27× 104.96x 46.64x 10 1024 1024 512 512 Sequence Length