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<div align="center">Report for Assignment 4: Data Parallelism</div>
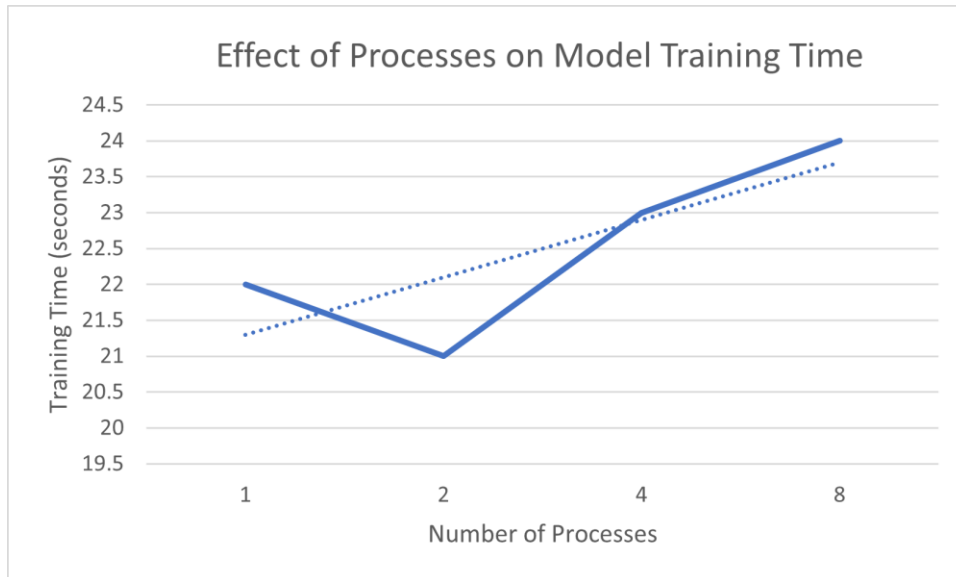
Figures

Figure 1 Effect of the number of processes available on training time of the model.

Questions

What is the effect of training time as we increase the number of processes available? Training time decreases when we increase from 1 to 2 processes. However, once the number of processes increases past 2 the speedup diminishes and the value of increasing the number of processes available decreases.

How does this line up with your expectations of the scalability laws that we discussed? This lines up well with my expectations of Amdahl's Law. I know that with Amdahl's Law the more a model is parallelized the less advantageous a higher number of processes is. It makes sense that our model would follow this principle since it has a fixed data size.

Which scalability law is most applicable in this case? Amdahl's Law is most applicable, as the speed up is affected by the parallelizability of the model. Gustafson-Barsis' Law would not work because this model does not achieve idealized linear scaling.