Train 'n Trade: Foundations of Parameter Markets

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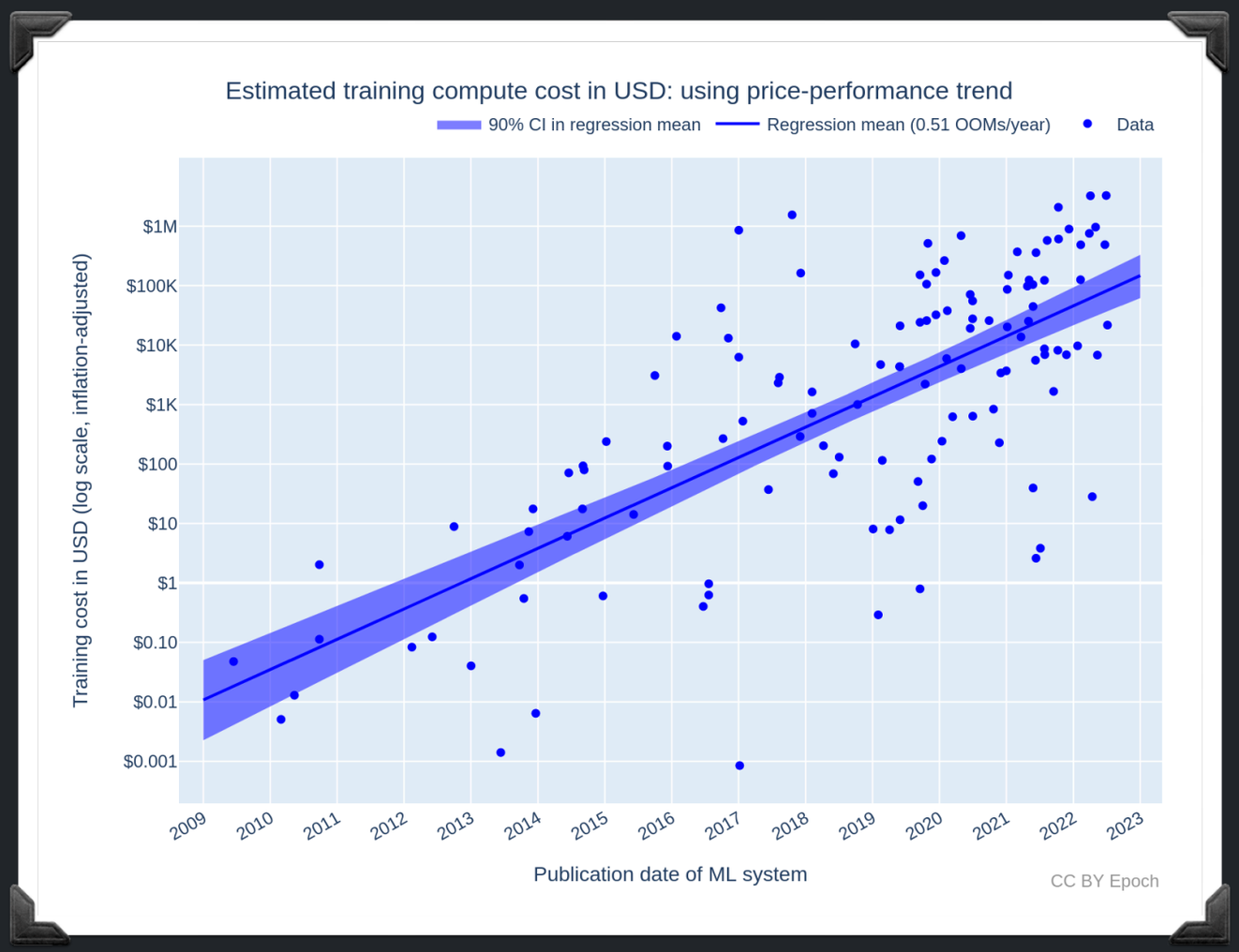
The Cost of Training

- Costs to build powerful ML models have increased enormously.



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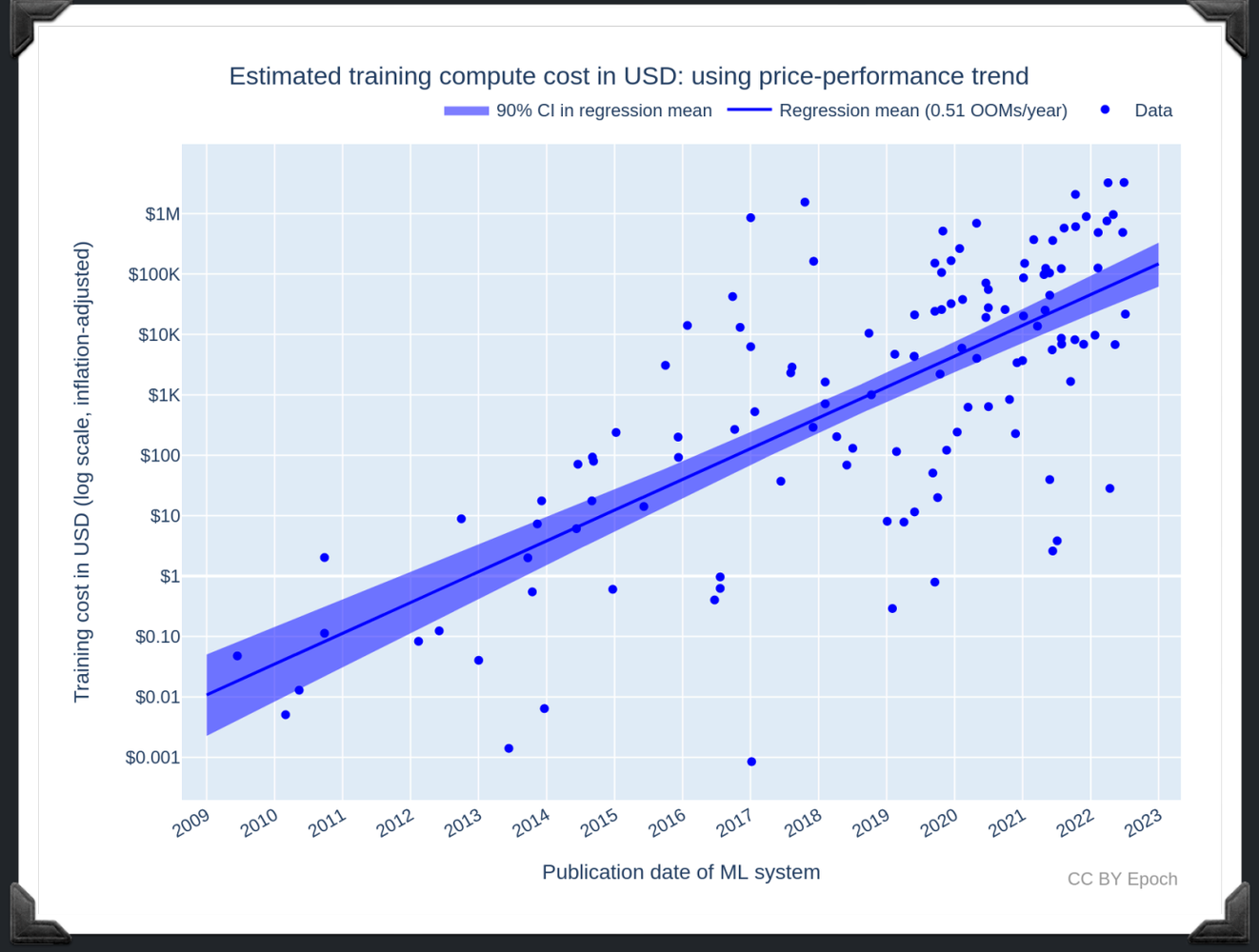
- Training a T5 model takes above $1.3 million for a single run. The entire project is estimated about $10 million.



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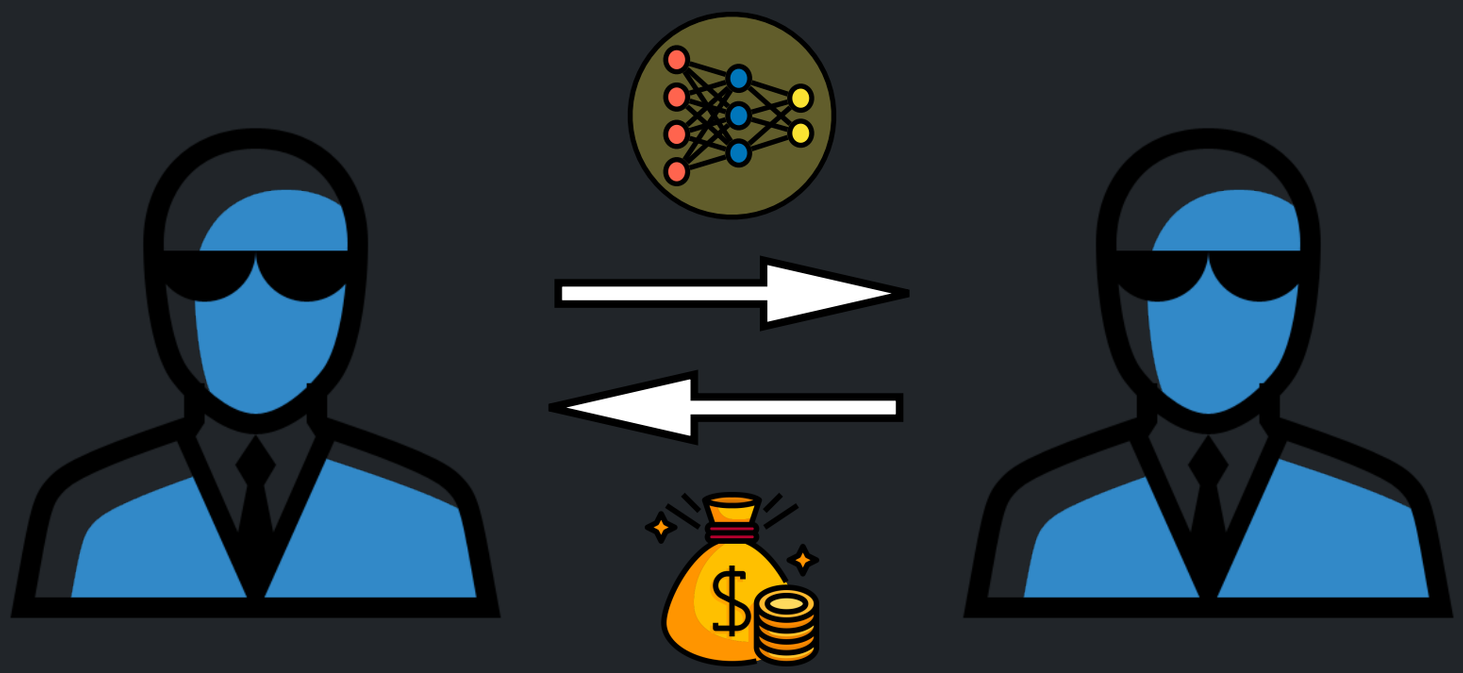
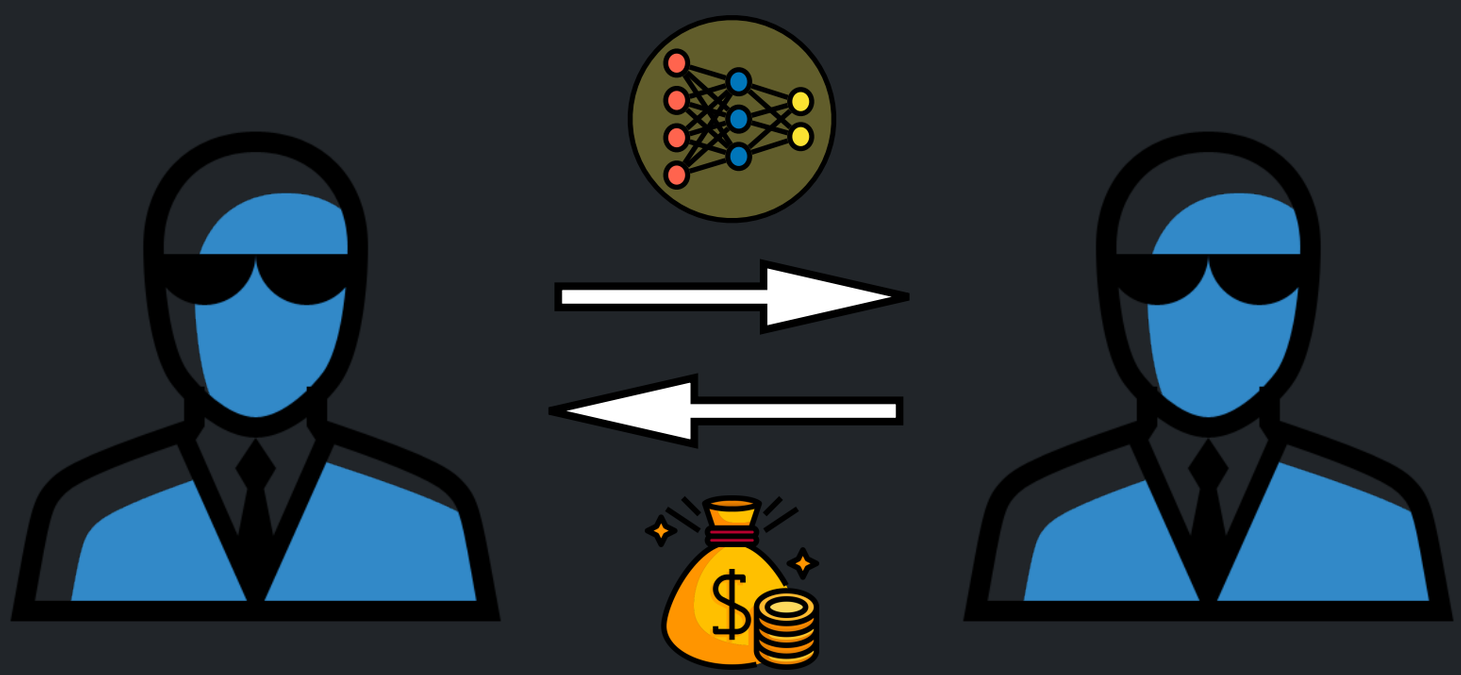


Parameter Markets

- Buyers don’t need to train-from-scratch anymore. They are able to purchase parameter sets directly and leverage the expertise from others.



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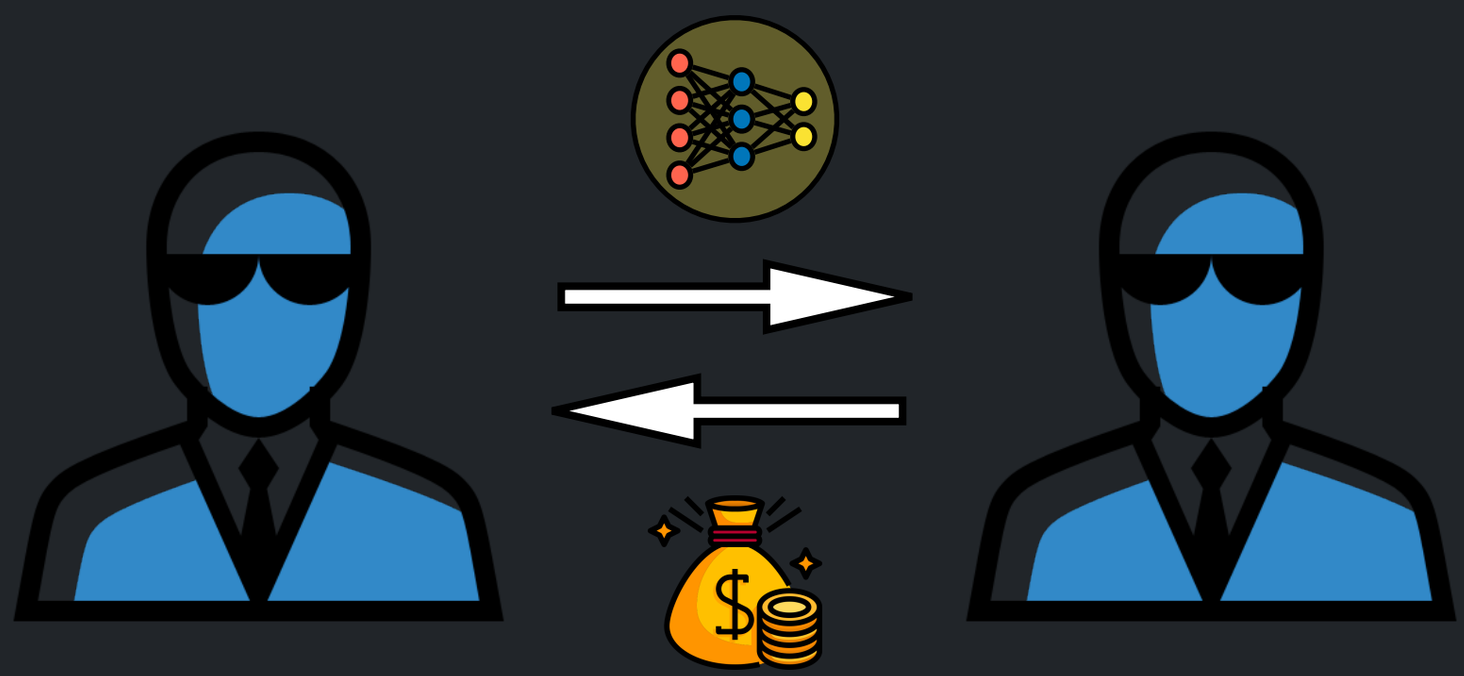
- Sellers (i.e., model owners) are able to monetize parameters as a second profit center.



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- How to monetize model parameters in a competitive market?
- We answer these questions, study fundamental infrastructures, and prove them in this work!

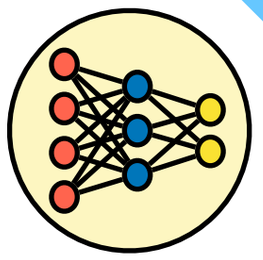
Agent A

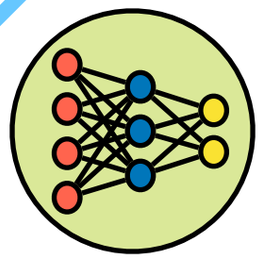
Agent B

Broker

Agent A

Agent B





1 Send Parameters

Broker

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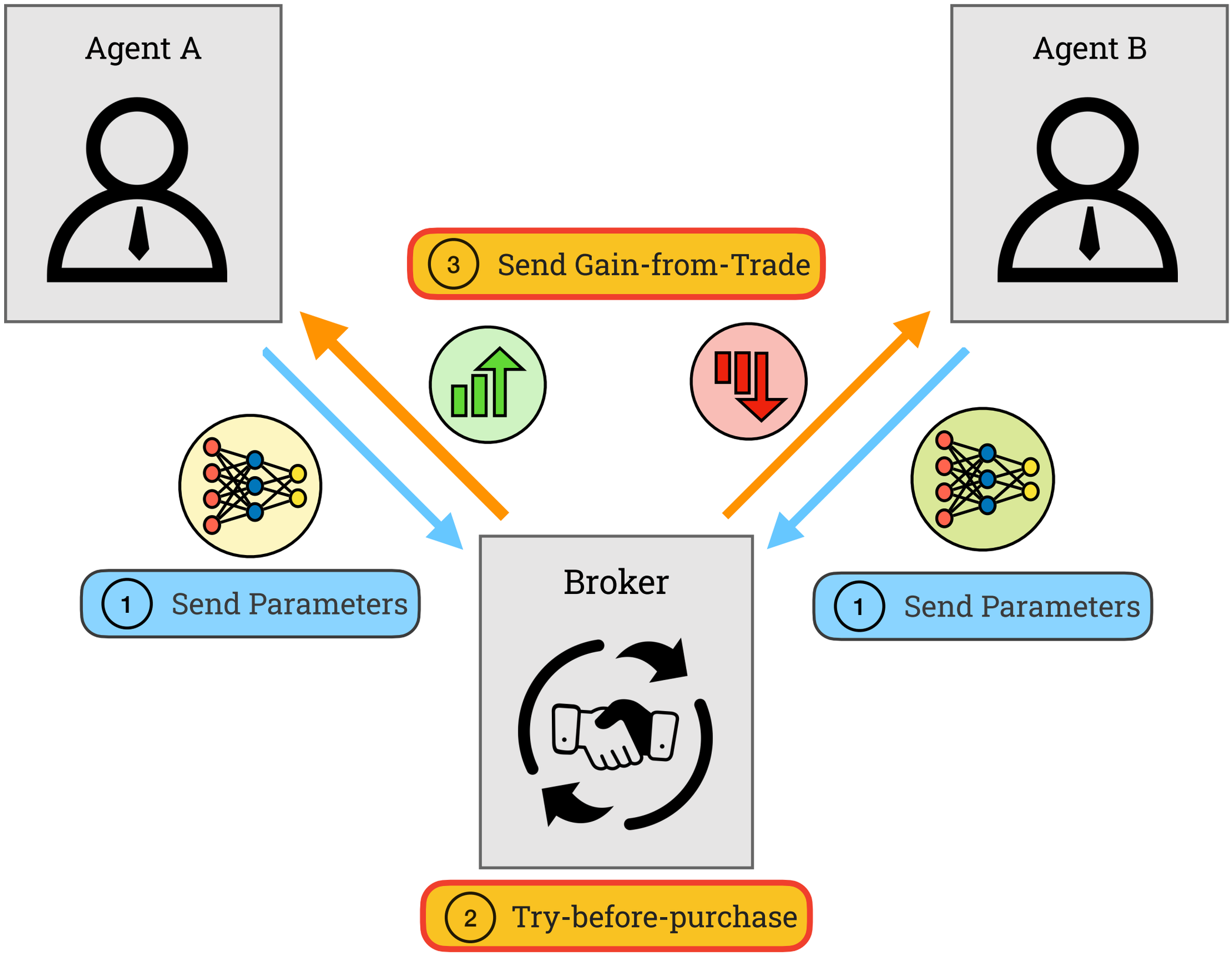
Agent A
Agent B
3 Send Gain-from-Trade
Broker
1 Send Parameters
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2 Try-before-purchase

4 Pricing Parameters

Agent A

Agent B

3 Send Gain-from-Trade

1 Send Parameters

4 Send Quotation Request

Broker

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5 Pricing Parameters

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Agent B

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Agent B

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5 Send Valuations

Broker

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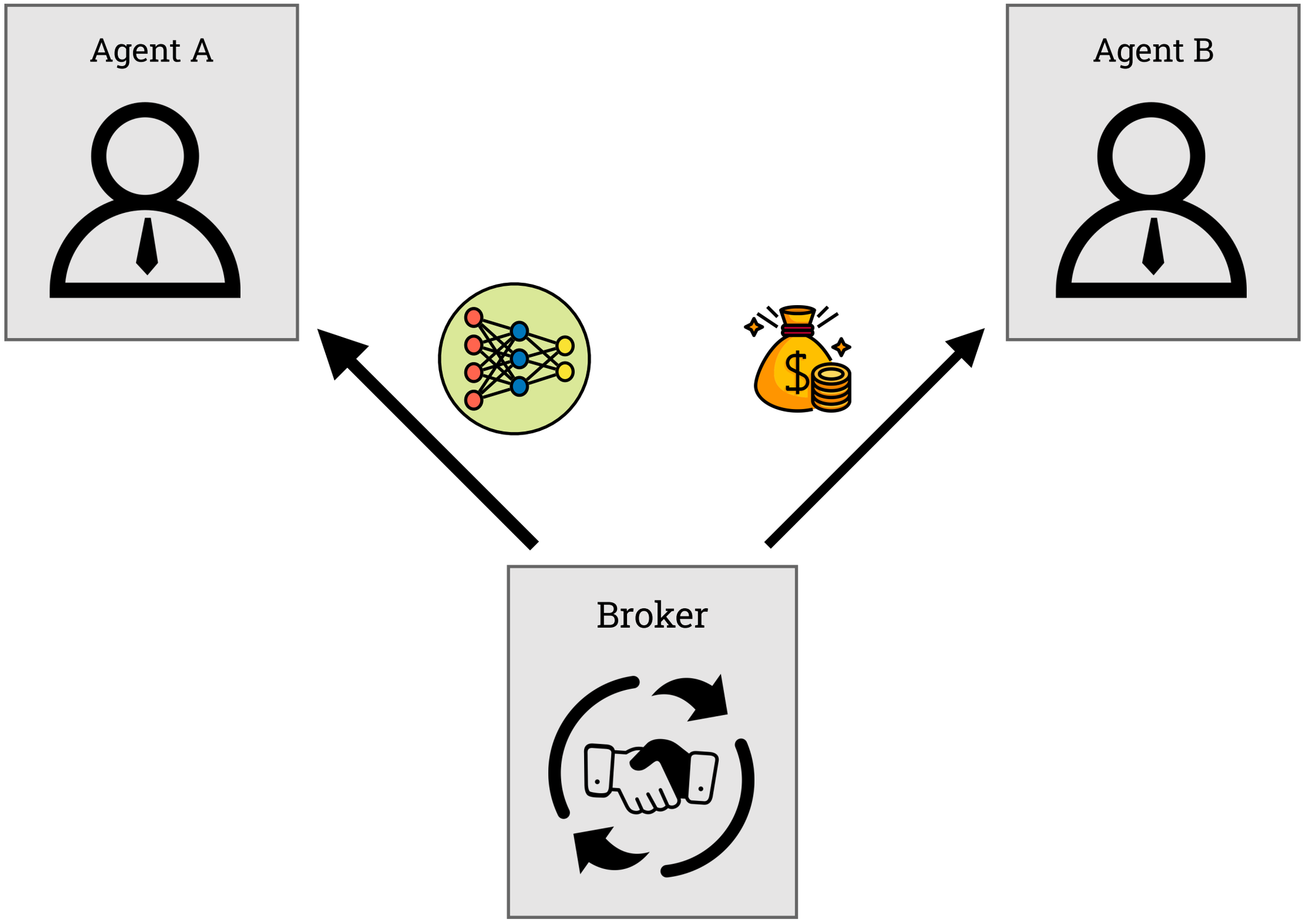
2 Try-before-purchase

6 Price Negotiation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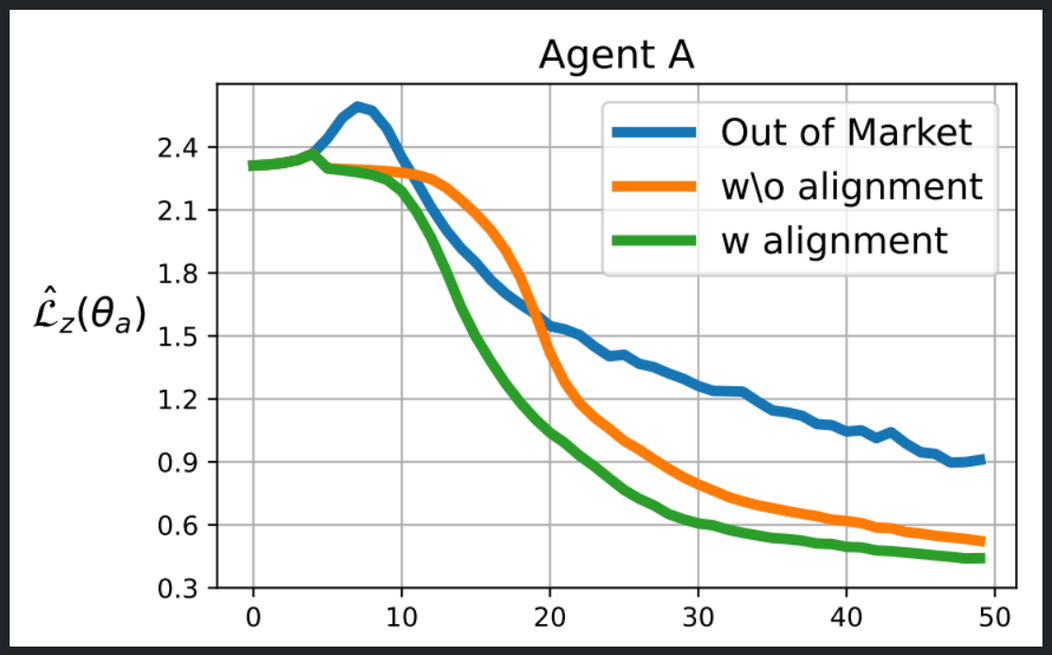

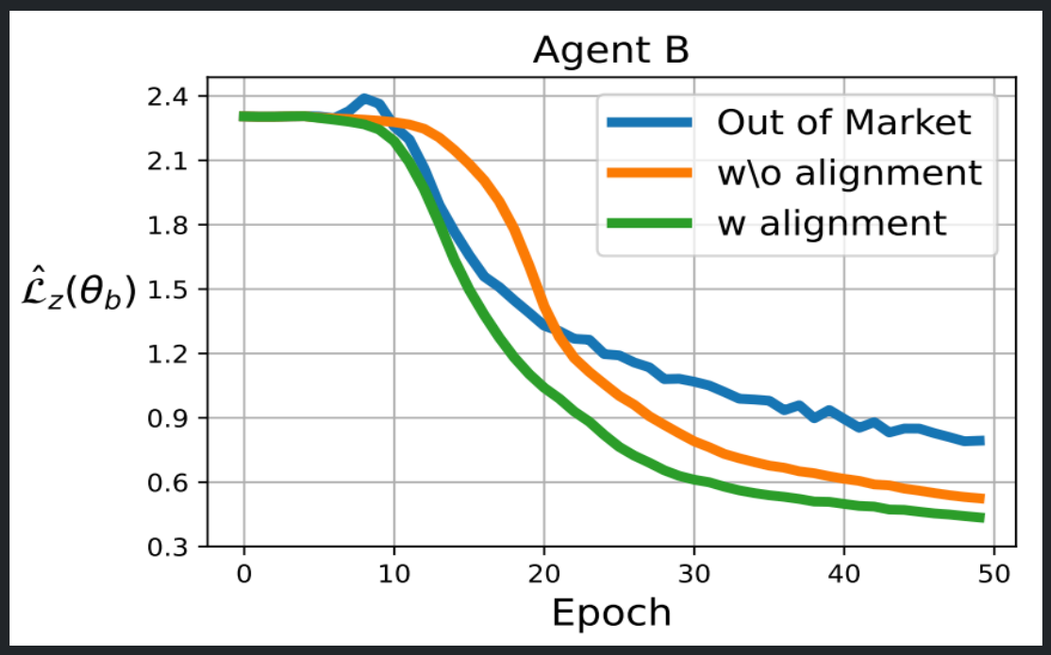

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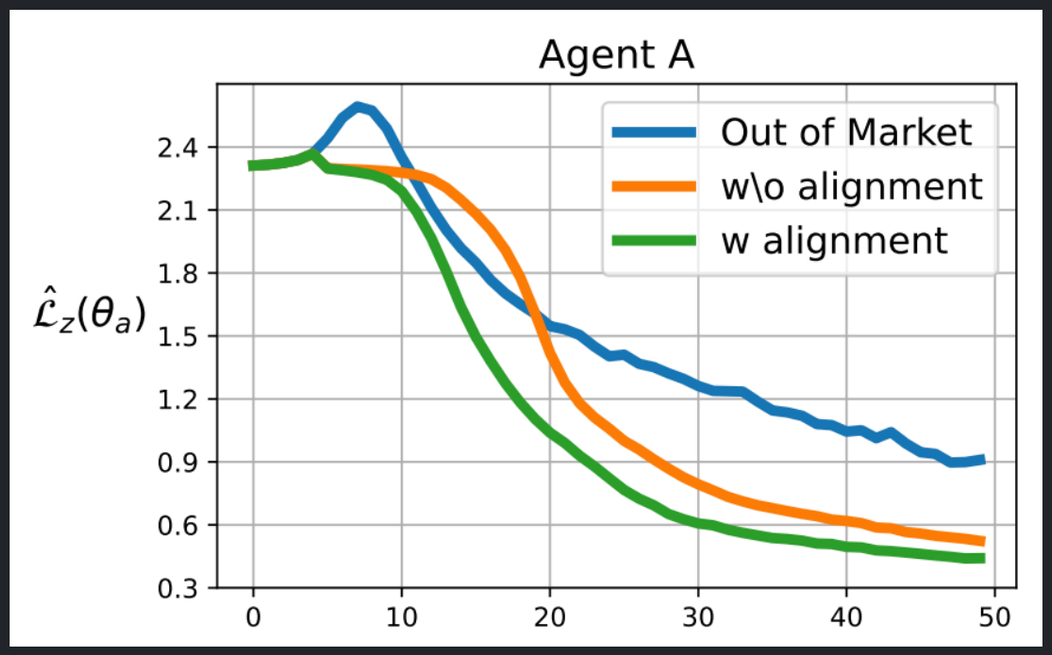

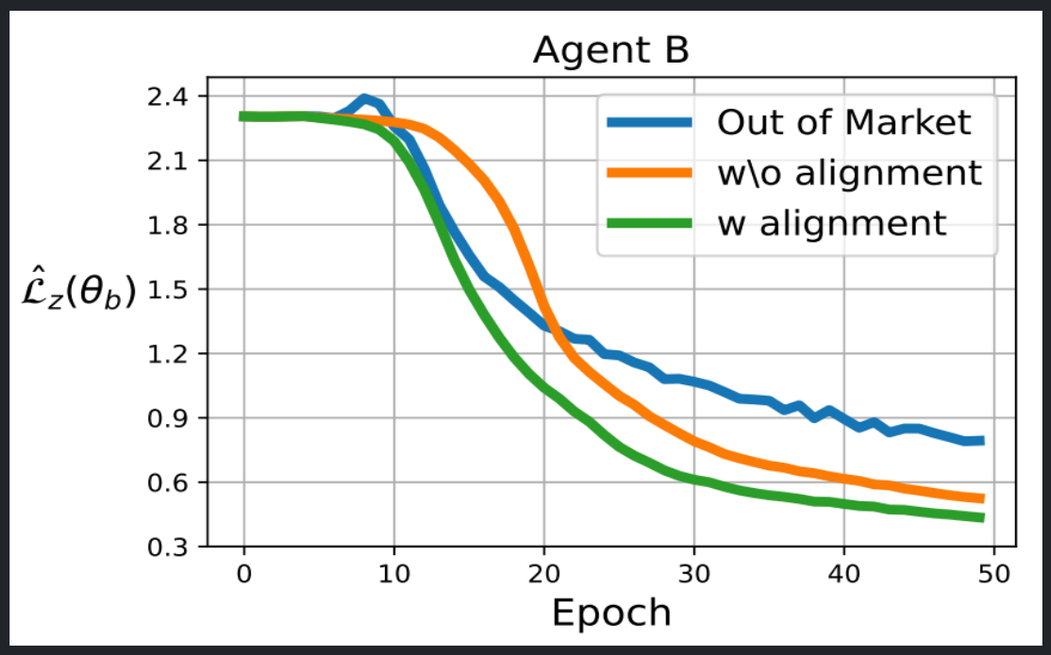

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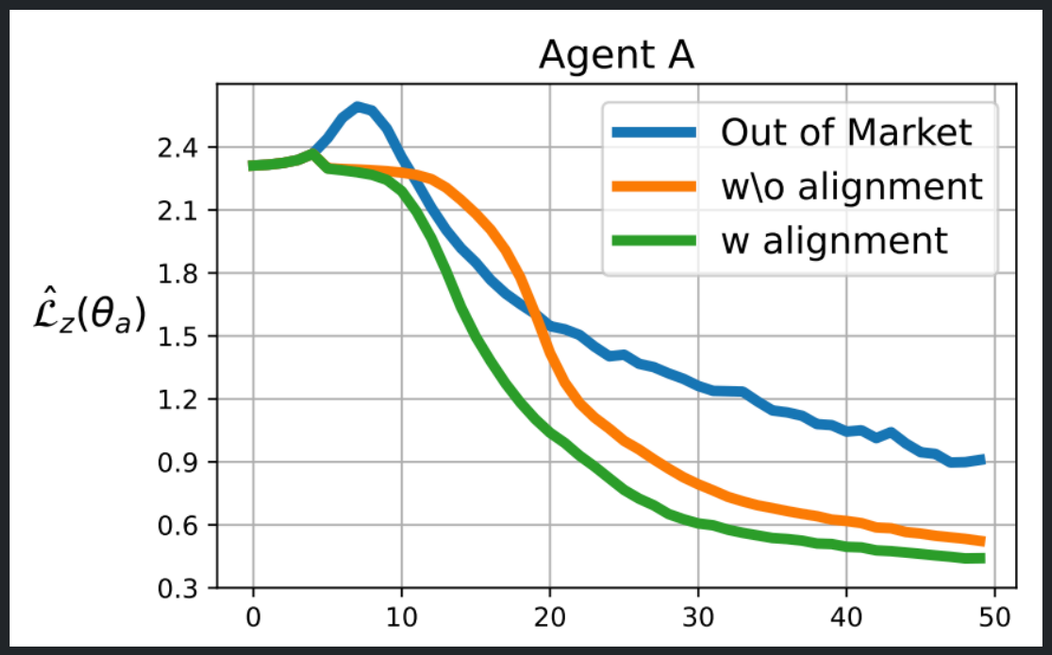

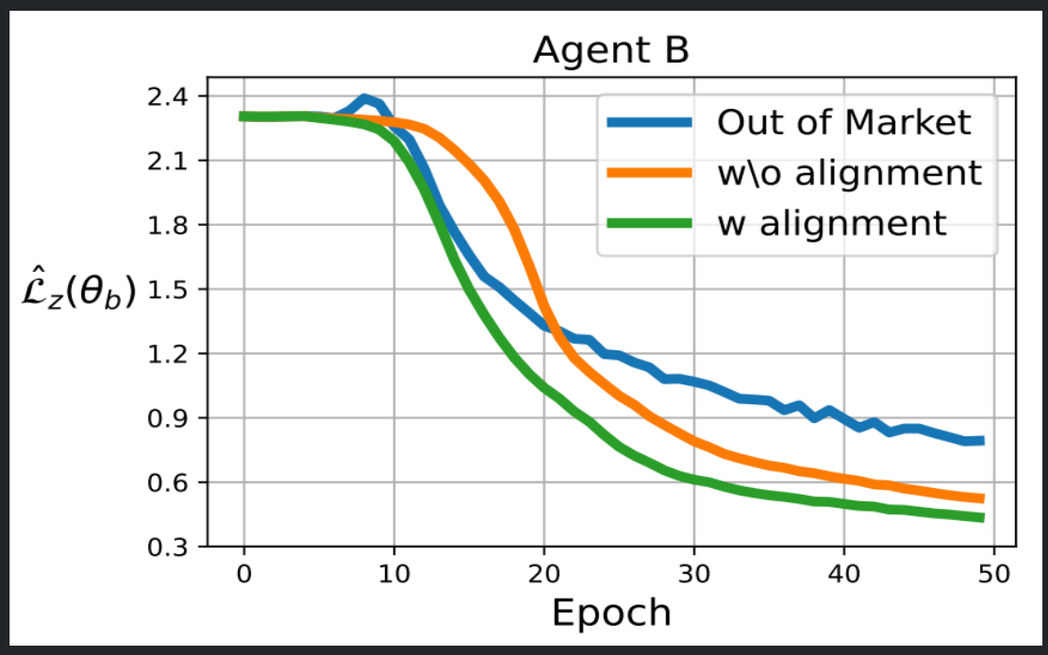

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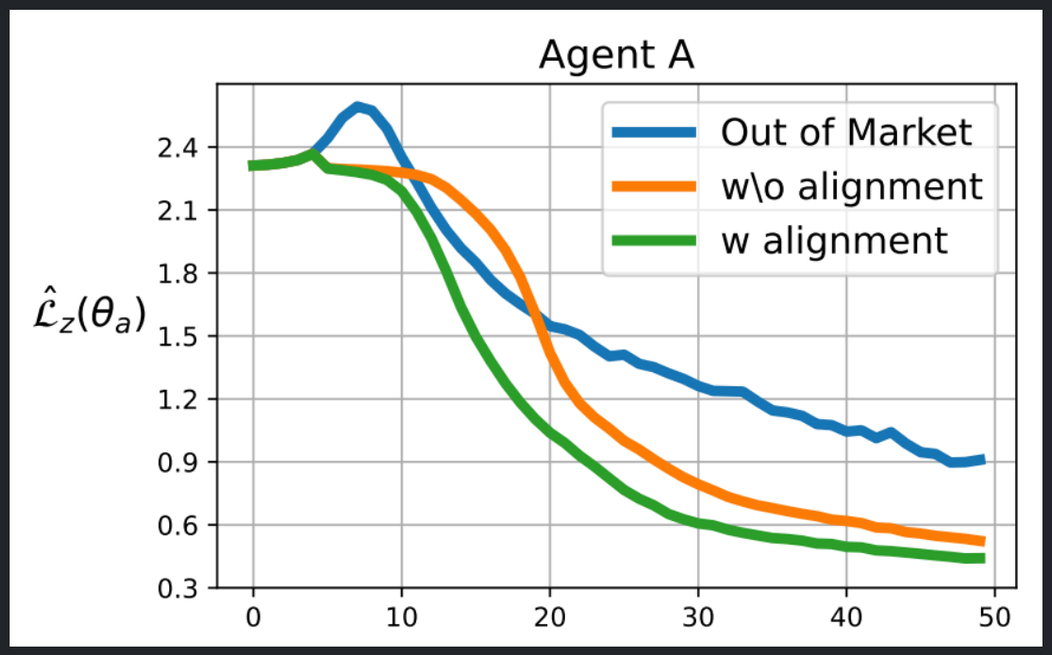
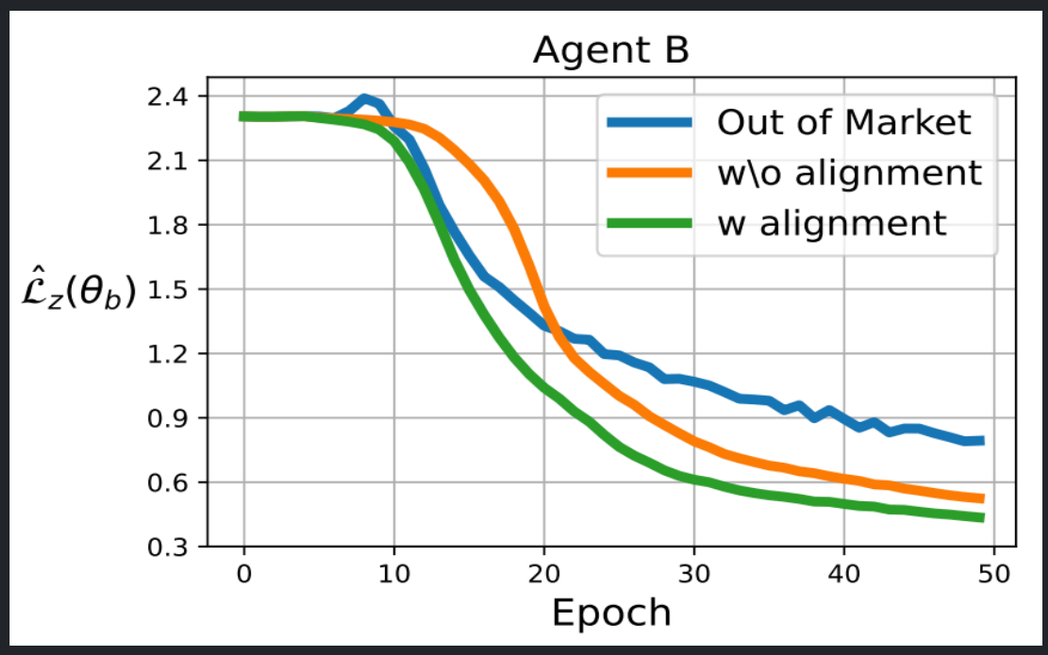
- Pricing mechanism is viable in competitive setting.





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- Check out our paper for more info or stop by our poster!
- [Github]: https://github.com/SprocketLab/parameter-market
- [Openreview]: https://openreview.net/pdf?id=4iV26fZPUD

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