

# Paper Reading & Discussion

## Classic Meets Modern - a Pragmatic Learning-Based Congestion Control for the Internet

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### Questions

- Orca was trained on a small dataset, with a limited diversity of network environments. If the model was larger, and deployed to a large user-base (e.g. in the millions), would the relative computational overhead increase significantly?

### Comments

- The action-space of the DRL agent is constrained to optimize the speed of the algorithm.
- As the authors state in [Computers Can Learn from the Heuristic Designs and Master Internet Congestion Control](#), online RL techniques fail to effectively generalize over complex domains.
- The classical CC (fine-grain section) helps the model generalize better, compared to the equivalent clean-slate DRL model.
- Orca may outperform TCP Cubic with large and small monitoring time-periods (MTPs), but Orca's performance boost at smaller MTP values is proportionate to an increase in computational overhead.
- The experiments carried out for evaluation tested out a variety of network environments, which demonstrated the inflexibility of classical CC algorithms and the adaptability of Orca.