

Errata for Ph.D. Thesis

Machine Learning-Driven Optimization in Networked Systems: Leveraging Graph Neural Networks to Solve Resource Allocation Problems

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By Daniel Felipe Pérez Ramírez
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Acronyms

Following acronyms were missing from the “Acronyms” list:

- **Carrier Generator (CG)**. First introduced in page 33 of thesis (page 58 in pdf).
- **Dynamic Adaptive Streaming over HTTP (DASH)**. First introduced in page 11 (page 36 of pdf).
- **Degree PE (DPE)**. First introduced in Table 6.1, page 99 (page 124 of pdf).
- **Maximum Independent Set (MIS)**. First introduced in page 24 (page 49 of pdf).
- **Minimum Vertex Cover (MVC)**. First introduced in page 24 (page 49 of pdf).
- **Signal-to-Noise Ratio (SNR)**. First introduced in page 22 (page 47 of pdf).
- **Stable and Expressive PE (SPE)**. First introduced in page 38 (page 63 in pdf).

Chapter 2: Background

- Page 20 (page 45 in pdf), Sec. 2.2.1, “Definition 2.1”, second sentence:
 - **Original text:** “*Most physical layer communication networks are naturally modeled as undirected graphs, as wireless propagation and interference are typically bidirectional.*”
 - **Corrected text:** “*Many IoT and sensor networks are modeled as undirected graphs, as wireless propagation and interference are typically bidirectional.*”
- Page 25 (page 50 in pdf), Sec. 2.4, “Parametric Models”, second sentence:
 - **Original text:** “[...] set of parameters θ (e.g., linear/logistic regression regression, neural networks) that [...]”.
 - **Corrected Text:** “[...] set of parameters θ (e.g., linear/logistic regression, neural networks) that [...]”.

Chapter 4: Learning-based Combinatorial Optimization

- Page 44 (page 69 in pdf), Sec. 4.3.1, “Network Modeling and Prediction” paragraph, last sentence:
 - **Original text:** “*It also illustrates the enduring challenge of maintaining revust predictions [...]*”.

- **Corrected text:** “It also illustrates the enduring challenge of maintaining robust predictions [...]”.

Chapter 5: DeepGANNTT

- Page 59 (page 84 in pdf), Sec. 5.2.1.2, “Collisions”, fourth sentence:
 - **Original text:** “Node that this applies for the [...]”.
 - **Corrected text:** “Note that this applies for the [...]”.
- Page 59 (page 84 in pdf), Sec. 5.2.1.3, “Scheduling Constraints”, third sentence:
 - **Original text:** “[...] represents the Infimum for the schedule’s length.”
 - **Corrected text:** “[...] represents the lower bound for the schedule’s length.”

References

- Reference [44], page 127 (page 152 in pdf):
 - **Original text:** “Bernhard H Korte, Jens Vygen, B Korte, and J Vygen. *Combinatorial optimization. Vol. 1. Springer, 2011.*”
 - **Corrected text:** “Bernhard Korte and Jens Vygen. *Combinatorial Optimization: Theory and Algorithms. Vol. 21. Springer, 2012. ISBN: 978-3-642-24487-2.*”
- Reference [138], page 139 (page 164 in pdf):
 - **Original text:** “Vincent Liu et al. “Ambient Backscatter [...]”.
 - **Corrected text:** “Vincent Liu, Aaron Parks, Vamsi Talla, Shyamnath Gollakota, David Wetherall, and Joshua R. Smith. “Ambient Backscatter [...]”.
- Reference [139], page 139 (page 164 in pdf):
 - **Original text:** “Anran Wang et al. “FM Backscatter: Enabling [...]”.
 - **Corrected text:** “Anran Wang, Vikram Iyer, Vamsi Talla, Joshua R. Smith, and Shyamnath Gollakota. “FM Backscatter: Enabling [...]”.

Acknowledgments

- Page x (page 15 in pdf):
 - **Original text:** “I thank my close and extended family for their support, and I thank Mara [...]”.
 - **Corrected text:** “I thank my close and extended family for their support, especially Elisa del Pilar and Ana Paola, and I thank Mara [...]”.