

00102892: Statistical Learning Homework 5

Due: January 4, 2021

1. ESL Ex. 14.2
2. ESL Ex. 14.7
3. ESL Ex. 14.21
4. ESL Ex. 14.23
5. ESL Ex. 15.2
6. Wainwright Ex. 11.2
7. Wainwright Ex. 11.7
8. Prove the recursive formula for partial correlations: for any $i, j \in V, i \neq j, K \subset V \setminus \{i, j\}$, and $h \in K$,

$$\rho_{i,j|K} = \frac{\rho_{i,j|K \setminus \{h\}} - \rho_{i,h|K \setminus \{h\}} \rho_{j,h|K \setminus \{h\}}}{\sqrt{(1 - \rho_{i,h|K \setminus \{h\}}^2)(1 - \rho_{j,h|K \setminus \{h\}}^2)}}.$$