· 강의개요

An Introduction to Probabilistic Modeling

　본 강의에서는 학습과 예측을 위한 확률 모델링에 대한 기초와 응용 방법에 대해 설명한다. 기계학습의 여러 기본 개념이 왜 확률 모델링과 관계를 가지는지 설명하고, 확률 모델을 이용하기 위한 기초적인 학습 방법과 추론 방법에 대해 소개한다.

다양한 학습 방법이 사용 가능한 데이터 수에 어떤 영향을 받는지 설명하고, 다양한 확률 모델링의 정보 이론적 해석에 대해 설명한다.

고차원 확률 모델링의 이슈와 그 해결책에 대한 개념 파악을 주요한 목표로 한다. 시간이 허락하면 정보이론값 추정에 대해 간단히 소개한다.

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Curriculum Vitae

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Educational Experience

2011   Ph.D. in Interdisciplinary Program in Cognitive Science, Seoul National University, Korea

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Professional Experience

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2019-   Associate Member, Korea Institute for Advanced Study (KIAS), Korea

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Selected Publications (5 maximum)

1. Noh, Y.K., Park, J., Choi, B. G., Kim, K.-E., and Rha, S.W. (2019) A Machine Learning-Based Approach for the Prediction of Acute Coronary Syndrome Requiring Revascularization, *Journal of Medical Systems, 43(8), Article 253*

2. Ganguly, S., Ryu, J., Kim, Y.H., Noh, Y.K., Lee, D.D. (2018) Nearest neighbor density functional

estimation based on inverse Laplace transform, *arXiv:1805.08342*

3. Noh, Y.K., Hamm, J.H., Park, F.C., Zhang, B.T., and Lee, D.D. (2018) Fluid Dynamic Models for Bhattacharyya-based Discriminant Analysis, *IEEE Transactions in Pattern Analysis and Machine Intelligence, 40(1):92-105*

4. Noh, Y.K., Zhang, B.T., and Lee, D.D. (2018), Generative Local Metric Learning for Nearest Neighbor Classification, *IEEE Transactions in Pattern Analysis and Machine Intelligence, 40(1):106-118*

5. Noh, Y.K., Sugiyama, M., Kim, K.E., Park, F.C., and Lee, D.D. (2017), Generative Local Metric Learning for Kernel Regression, *Advances in Neural Information Processing Systems 30*