機械学習（叶 秀彩）
Machine learning (YE Xiucai)

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次元削減および機械学習を活用した医療分野での応用

膨大なデータや情報を扱う際、次元削減は重要な特徴を維持しつつ、データ量を減少させ、分析や可視化を容易にします。これにより、データに対する理解が深まり、より効率的な意思決定が可能となります。我々の研究グループでは、次元削減に基づく機械学習アルゴリズムの開発を進めています。また、医療分野において、遺伝子発現データ解析、タンパク質とその標的分子の探索や毒性予測、マルチオミックス解析など、機械学習手法の応用を進めています。

Dimensionality Reduction and the Application of Machine Learning in the Medical Field

When dealing with large amounts of data and information, dimensionality reduction plays a crucial role by preserving important features while reducing the volume of data, thus facilitating analysis and visualization. This process deepens our understanding of the data and enables more efficient decision-making. Our research group is advancing the development of machine learning algorithms based on dimensionality reduction. In the medical field, we are also progressing in the application of machine learning methods, including the analysis of gene expression data, the exploration of proteins and their target molecules, toxicity prediction, and multi-omics analysis.

Research on machine learning algorithms and their application in medical filed