**Linear Regression with Scikit-Learn**

Machine Learning (ML) professionals encounter a range of legal, social, ethical, and professional challenges in designing and deploying intelligent systems. Legal considerations involve protecting personal data, upholding intellectual property rights, and complying with data protection regulations such as the General Data Protection Regulation (GDPR), which regulate the collection, storage, and processing of personal data. Ethical issues involve mitigating algorithmic bias, ensuring fairness, promoting accountability, and maintaining transparency in automated decision-making processes that affect individuals and communities. Social challenges such as job displacement, digital exclusion, and public mistrust in AI systems highlight the need for responsible and inclusive innovation (Golgeci et al., 2025).

Evaluating the applicability of datasets requires careful examination of data quality, diversity, and relevance to the intended ML application. Problems like imbalance, noise, and limited representativeness can introduce bias and reduce model generalisability (Mathrani et al., 2021). Effective preprocessing, normalisation, and augmentation are crucial for improving model robustness and fairness.

To function effectively in a virtual development team, ML professionals should develop strong collaboration, communication, and organisational skills. Embracing agile methodologies, version control systems, and continuous integration enhances teamwork and productivity. Recognising varied team roles and upholding professional ethics promote accountability and innovation in applied ML projects.

References

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