# Lecture Supervised Machine Learning

## Fall Semester 2025/2026

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| **Name of the course** | Supervised Machine Learning |
| **Name of the lecturer** | **Prof. Nuo Li** |
| **Description of the course** | The participants will understand the concepts and mathematical fundamentals of supervised machine learning algorithms, and be able to implement according software solutions.<br><br>- Concrete understanding of basic supervised machine learning algorithms based on their mathematical foundations, including k-nearest neighbors, linear regression, support vector machines, decision trees, etc.<br><br>- Ability to use Python frameworks to process and clean data as well as training models. |
| **Dates** | Oct – Dec 2025 |
| **Kind of exam** | Written exam. In addition, it depends on the number of participants, there may be task assignments and presentations of students. |
| **Prerequisites required** | Programming -- ideally some Python programming experience.<br>Mathematics (calculus, linear algebra, statistics). |
| **Recommended reading** | • Aurélien Géron. Hands-On Machine Learning with Scikit-Learn, Keras, and TensorFlow, 2nd Edition. 09.2019. O'Reilly Media, Inc. ISBN: 9781492032649.<br>• Gareth James, Daniela Witten, Trevor Hastie, Robert Tibshirani. An Introduction to Statistical Learning. 2nd Edition. 07.2021. Springer. ISBN: 978-1071614174.<br>• Marc Peter Deisenroth, A. Aldo Faisal, Cheng Soon Ong. Mathematics for Machine Learning. 04.2020. Cambridge University Press. ISBN: 9781108455145. |