

# Master Thesis on Machine Learning model focused on TLC network

We are offering a unique opportunity to implement and automate **Machine Learning** models for **Telecommunications networks**, using real-world operational data from Nokia's Microwave Radio (MW) technology during the **Master's Thesis Internship**.

**This Master's Thesis** focuses on developing and automating **Machine Learning** models for **Telecommunications (TLC) networks**, specifically leveraging real-world operational data from Nokia's Microwave Radio technology to enhance high-capacity wireless backhuls and fronthaul. Throughout this journey, you will benefit from the guidance of an **AI expert**. This expert will provide **structured guidance** and **continuous technical support** for both the solution's development and the preparation of your Master's thesis.

## Responsibility

Your core responsibility will be the **creation of a Machine Learning model**. This model will be **trained, tested, and integrated** over a Nokia AI-based network analysis platform, contributing directly to our innovative solutions. This project is structured around **three primary objectives**:

- First, you will engage in an **in-depth data discovery phase**. This involves **exploratory analysis** and applying **classical statistical methods** to extract meaningful insights, define robust **data preparation strategies**, and guide effective **feature engineering**.
- Second, the project focuses on the **design, development, validation, and optimization of a Machine Learning model**. This stage demands **methodological rigor** in model selection and thorough performance evaluation to ensure high quality and effectiveness.
- Third, you will be responsible for the **refinement of the codebase**. This includes improving its **usability and reproducibility**, with particular attention to **automation strategies** to ensure scalability and effective deployment within the Nokia ecosystem.

## You Have:

- Courses in Artificial Intelligence (AI) and Machine Learning (ML)
- Python programming skills with familiarity in standard Machine Learning frameworks
- Knowledge of data manipulation and preprocessing techniques
- Strong analytical thinking and the ability to translate methodological choices into measurable performance improvements
- Good English spoken and written
- Focus, commitment, and reliability, enabling effective interaction within multicultural and multilingual environments across multiple geographical sites.

## It would be nice if you also had:

- Prior knowledge of the telecommunications domain
- Strong motivation to learn domain-specific concepts, actively engage with real industrial data, propose ideas, and develop critical thinking in the context of emerging technologies.

## Site:

**Nokia Italy**, via Energy Park 14, 20081 Vimercate (Italy)

