Subject: Internship Project Proposal

Code Name	PTA_EN_2026-UNMECLE-0088394_13/07/2026 9.29.41
Date	13/07/2026 9.29.41
Target	Master's Degree - Data Science

Host Institution

Host Institution	F.lli Di Mrtino S.p.a
Protocol	2026-UNMECLE-0088394
Protocol Date	13/07/2026
Country	sicilia
City	catania
Address	VI STRADA N.8 CATANIA, 95121
Website	https://www.dimartinospa.com/
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Project Supervisor

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Internship Project Details

Title	Data Analytics and Machine Learning for the Optimization of Logistics and Transportation Processes

Detailed Description: The training project aims to provide the student with the opportunity to apply advanced Data Analytics and Machine Learning methodologies to real-world logistics and transportation processes, supporting data-driven decision making within the host company.

During the internship, the student will work with company staff to analyze data collected from logistics information systems, such as Transportation Management Systems (TMS), Warehouse Management Systems (WMS), Enterprise Resource Planning (ERP) systems, GPS devices, IoT sensors, and operational databases. The student will be involved in data acquisition, integration, cleaning, preprocessing, and validation to ensure data quality and consistency.

The internship activities will include exploratory data analysis, statistical modeling, and the development of predictive models to estimate delivery times (ETA), forecast demand, detect operational anomalies, and identify the main factors affecting logistics performance. The student will also contribute to the design and implementation of interactive dashboards and Business Intelligence reports for monitoring Key Performance Indicators (KPIs) and supporting strategic and operational decision-making.

Furthermore, the project may involve the evaluation and application of optimization algorithms for transportation planning, route optimization, fleet utilization, and resource allocation, with the objective of improving operational efficiency, reducing transportation costs, and enhancing service quality and sustainability.

The internship will provide practical experience with industry-standard tools and technologies, including Python, SQL, Power BI or Tableau, as well as data analysis and machine learning libraries such as Pandas, NumPy, and Scikit-learn. At the end of the internship, the student will have strengthened both technical and analytical skills in Data Science and Logistics Analytics, gaining experience in developing data-driven solutions for complex business challenges.

Topics	Business Intelligence Data Engineering Data Cleaning and Data Integration Big Data Analytics Statistical Data Analysis Machine Learning for Logistics Predictive Analytics Demand Forecasting Estimated Time of Arrival (ETA) Prediction Supply Chain Analytics Transportation Analytics Route Optimization Vehicle Routing Problem (VRP) KPI Analysis and Performance Management Dashboard Development and Data Visualization SQL for Data Analysis Python for Data Science Decision Support Systems Data-Driven Decision Making
Reimbursement of Expenses (YES/NO)	NO
Refund Amount	
Availability for Travel (YES/NO)	YES
Kind of employment	Full time
Duration in months (max 12)	1
Duration in hours	170
Internship Date Start	01/08/2026
Internship Date End	31/08/2026

Number of Open Position(s)	1

Internship Skills

Required Skills: Knowledge of data analysis methodologies and statistical techniques. Basic knowledge of machine learning algorithms and predictive modeling approaches. Ability to collect, clean, preprocess, and integrate data from different sources. Knowledge of SQL and relational databases for data management and querying. Programming skills in Python for data analysis and data science applications. Familiarity with data analysis and visualization libraries such as Pandas, NumPy, Matplotlib, Seaborn, and Scikit-learn. Knowledge of Business Intelligence tools (e.g., Power BI, Tableau) for dashboard development and reporting. Ability to analyze and interpret Key Performance Indicators (KPIs) related to logistics and transportation processes. Basic understanding of supply chain management, logistics operations, and transportation systems. Knowledge of data-driven approaches for process optimization and decision support. Ability to document analytical results and communicate findings through technical reports and visualizations.	
Other Skills	Analytical thinking and problem-solving skills. Ability to approach complex problems using a structured and data-driven methodology. Attention to detail and accuracy in data analysis activities. Ability to work independently and manage assigned tasks within deadlines. Teamwork skills and ability to collaborate with technical and business teams. Effective communication skills for presenting analysis results to different stakeholders. Curiosity and willingness to learn new technologies and methodologies. Adaptability to changing business requirements and working environments.

	Ability to organize and prioritize activities effectively. Proactive attitude and interest in applying data analysis techniques to real-world business challenges.