Fanny Rebiffé

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Data scientist & mechatronics engineer

I aim to contribute to bridging the divide between the industry and AI. My strongest assets include a pragmatic approach developed through my experience as mechatronics engineer, an expertise in data honed as a researcher and communication skills cultivated by a passion for science outreach.

💼 Work experiences

2022-2025   3 years   Data scientist   MARIN, Maritime research   The Netherlands
- Trained a Reinforcement Learning agent to control an autonomous sailing robot in a time-discrete simulation (C++ software) and conducted basin test to ensure the method robustness (sim-to-real transfer)
- Trained an autoencoder (PyTorch) for trajectory clustering
- Implemented supervised learning models (scikit-learn) for ship motion prediction
- Contributed to the in-house optimization software (Python, linux, git, automated tests, JIRA, MLOps)
- Created and animated cloud-based (AWS) workshops to initiate non-technical clients to Reinforcement Learning

2017-2020   3 years   R&D engineer   Jtekt, automotive supplier   France
- Developed a physics-informed model (Matlab) to predict a system performances based on multi-fidelity data from measurements, experiments and Finite Element Method (FEM) and conducted uncertainty propagation
- Coordinated activities around component design (international suppliers, R&D team, internal process)

⚙️ Internships

2022   6 months   Data science trainee   Framatome, nuclear fuel design   France
- Developed an interpretable Reinforcement Learning agent based on Scikit-Learn for combinatorial optimization

2016   6 months   Mechatronics trainee   Tiama, robots manufacturer   France
- Developed a physical (mass-spring-damper) model of an industrial robot to diagnosed & fixed vibrations issues

2015   6 months   Engineer trainee   SNCF, train maintenance   France
- Benchmarked Machine Learning solutions for the TGV predictive maintenance

🎓 Education

2020-2022   Master degree in statistics & data science   UGA, Grenoble   France
- Probability, statistical modeling, Monte Carlo methods, database, machine learning, optimization
- Python (NumPy, SciPy, pandas, scikit-learn, jupyter, Gym), R, Matlab, Julia, Tableau, SQL, git, Linux, LaTeX, Knime

2011-2016   Engineering degree in mechatronics   UTC, Compiègne   France
- Erasmus exchange semester   TUT, Tampere   Finland
- Programmable Logical Controller (PLC), control, dynamic systems modelization (Matlab, Simulink, Adams), robotics

💬 Languages

French - Mother tongue   English - Fluent   Dutch - Beginner

🎨 Personality

- International-oriented, I have studied a semester in Finland, cycled across Europe, and worked in the Netherlands
- Team player, I like to share my knowledge with non-technical audiences via videos, posters, hands-on workshops...
- Quick learner, I fulfilled the entire electrical renovation of my flat and obtained the Consuel certificate in 3 months