

Marius Duvillard

Applying for: Full-time Position in Machine Learning and Statistics

📧 marius-duvillard.github.io
☎ (+33) 688547008

🔗 github.com/marius-duvillard
📄 marius.duvillard

✉ marius.duvillard@gmail.com
📍 Saint-Chéron, France

Description

I am a PhD in Applied Mathematics with a strong interest in machine learning, probabilistic methods, and their application in simulation. I am currently seeking a full-time position in these fields.

Experience

PhD in Applied Mathematics	CEA Cadarache, France	10/2021 - 12/2024
<ul style="list-style-type: none">◦ Data Assimilation for Lagrangian simulation◦ Applied to incompressible fluid dynamics simulation (Vortex Method)◦ Developed a parallelized Vortex Method code with OpenMP and MPI◦ Adapted Ensemble Kalman Filter for intensity correction and a variational approach for position correction◦ Presented work at ECCOMAS 2024, PARTICLES 2023, and published.		
Machine Learning Intern	CEA Cadarache, France	04/2021 - 10/2021
<ul style="list-style-type: none">◦ Developed neural networks constitutive models for nonlinear elastic and elastoplastic laws◦ Implemented a semi-supervised approach for penalization◦ Presented monthly progress updates within an international working group		
Mechanical Engineer Intern	Framatome, Paris, France	06/2020 - 08/2020
<ul style="list-style-type: none">◦ Studied thermal stratification in elastoplastic flexibility calculations◦ Defined a new model based on beam and shell elements◦ Integrated and applied the model on complex piping geometries		
Intern - Account Manager	La Poste, Nantes, France	07/2019 - 08/2019
<ul style="list-style-type: none">◦ Customer reception, sales, advice, merchandising◦ Improved skills in commercial relations and adaptability		

Education

Ecole Polytechnique	Palaiseau, France	10/2021-12/2024
PhD in Applied Mathematics <ul style="list-style-type: none">◦ Working with the X/Inria project-team PLATON		
Ecole Centrale de Nantes	Nantes, France	09/2018-08/2021
M.S. Engineer <ul style="list-style-type: none">◦ Data analysis and applications in signal and image processing◦ Advanced Modelling and Analysis of Structures		
Lycée Descartes	Tours, France	09/2016 - 07/2018
<ul style="list-style-type: none">◦ intensive one-year/two-year study course preparing for the competitive entrance examinations to the French <i>Grandes Écoles</i> (the top French and highly-selective institutions)		

Skills

- **Machine Learning:** 🐍 Pytorch, 🍌 Scikit-learn, 📦 Keras
- **Scientific Programming:** 🐍 Python, (Pandas, Numpy, Scipy, Plotly, etc.), 📌 C++ Cpp
- **Mechanics:** Gmsh, Abaqus, Ansys Apdl
- **Others:** Git, L^AT_EX
- **Languages:** French (Native), English (proficient, TOEIC: 935)