Sylvain **Delahaies**

Data Science | Data Engineering

In brief

After more than ten years of applied and fondamental research in Mathematics and Data Assimilation, I decided to operate a slight career shift to embrace the AI revolution. Starting with an intensive self-training in Machine Learning and Deep Learning, I then joined DataScientest to train as a Data Engineer to fulfill my potential.

My goal: to design, implement and deploy AI solutions.

In practice

- ✉ s.delahaies@gmail.com
- 🌐 Website: sdelahaies.github.io
- in sylvaindelahaies
- 📍 Condat-sur-Vézère, Dordogne, FR
- 🧑‍💻 partial/full-remote working

Languages

- 🇫🇷 French - Mother tongue
- 🇬🇧 English - professional proficiency
- 🇩🇪 German - Notions

Education

- **PhD** *2005-2008*
  Contact and Complex structures in Geophysical Fluid Dynamics
  University of Surrey

- **MSc** *2004-2005*
  Hydro-Informatics
  University of Surrey

- **MSc** *1999-2004*
  Mathématiques et Applications
  Université d'Angers

Interests

- City council
- Sciences
- Technologies
- Piano, Guitar
- Lutherie
- Computing
- Linux
- craft building
- Hiking
- Heritage

SKILLS

Math & Data Science
- Geophysical Fluid dynamics
- Data analysis & visualisation
- Data assimilation
- Machine Learning
- Computer Vision
- Natural Language Processing
- Reinforcement Learning
- Recommendation System

Languages & Tools
- python, bash, LaTeX, Git, Matlab
- pytorch, tensorflow, sklearn
- VS code, jupyter, Android Studio

Isolation & Orchestration
- Docker
- Kubernetes
- Airflow

Databases
- SQL & NOSQL
- MongoDB
- ElasticSearch
- Neo4j

Big Data
- Java Spark
- Pyspark
- Hadoop Hive
- Kafka
- Spark Streaming

Development
- Fastapi
- Flask
- Dash
- Streamlit
- Django

TRAINING

Data Engineer 2023
Datascientest Diploma certified by les MINES ParisTech- full-remote
Programming, Databases, Machine learning, Big Data, Streaming, Automation, Deployment, Devops.
Project: Development of a travel planning App with POI recommendation: design, implementation, deployement.

EXPERIENCE

Visiting Research Fellow 2020-present
University of Surrey - full-remote Guildford, UK

Post-doctoral Research Assistant 2009-2020
University of Surrey - full-remote Guildford, UK

★ **Data Assimilation and Stochastic Point Processes**
- Development of Bayesian filters, deployment on HPC.
- Application to crime modeling, social and neural networks, Covid19 outbreak.
- Machine learning for the assessment of insurance risks associated with land subsidence.
- Development of a flask/dash web app to monitor the evolution of the Covid19 outbreak.

★ **Data Assimilation and Terrestrial Ecosystems**
- Development of variational methods for the analysis of the Carbon cycle for terrestrial ecosystems.
- Study of very high resolution satellite imagery together with a terrestrial ecosystem Carbon cycle model to monitor and detect forest degradation.
- Development of variational tools to evaluate the information content of different observation fluxes in Carbon cycle models.
- Development of a matlab interface to analyse the sensitivity for Carbon cycle models.

★ **Teaching:** Numerical soultions for PDEs 2011-2012
★ **Communication:** publications, posters, conferences, seminars.