



Romain Hild

RESEARCH ENGINEER · PH.D. IN APPLIED MATHEMATICS

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Experience

Cemosis, Université de Strasbourg

Strasbourg, France

INGÉNIEUR DE RECHERCHE

October 2018 - PRESENT

- MOR_DICUS: Conception of an open-source library for industrial use of model reduction methods. Project in collaboration with EDF R&D, SAFRAN, École des Mines de Paris, ... Application of reduced basis methods in Python and C++
- Ibat: Use of Building Information Model (BIM) to develop efficient heat exchange models combining physical models, IA, and data coming from sensors deployed in the building. Creation of micro services deploying a REST API with Node.js, use of missing data imputation methods, supervision of internships
- Eye2Brain: Development of mathematical methods to describe relations between eye and brain for diagnosis purposes. 3D-0D coupling between Feel++ and OpenModelica with HDG methods

CNRS/Plastic Omnium

Strasbourg, France

RESEARCH ENGINEER

October 2014 - September 2015

- Non standard resolution method for Navier-Stokes equations with specific boundary conditions, using a spectral basis.
- Parallel computing and HPC
- Linear algebra and algorithmic

Plastic Omnium

Sainte-Julie, France

INTERNSHIP

February - August 2014

- Parallelisation of a code for aerodynamical and instationary computation and validation by comparison with existing data.
- Use of Feel++ library and HyperWorks

Education

Université de Strasbourg

Strasbourg, France

PH.D. IN APPLIED MATHEMATICS: OPTIMIZATION AND CONTROL OF HIGH FIELDS MAGNETS

October 2015 - October 2020

- Resolution of non linear coupled problems in industrial context, involving thermo-electric, magnetostatic and elasticity problems.
- Use of Continuous Galerkin and Hybridizable Discontinuous Galerkin methods.
- Use of Reduced Basis method for model order reduction and use of (Discrete) Empirical Interpolation Method (DEIM and EIM) with Simultaneous EIM and RB (SER) method to deal with non linearity.
- Geometrical optimization of a magnet to obtain a better homogeneity of the magnetic field, using RB method and Empirical Quadrature Method (EQM).

Université de Strasbourg

Strasbourg, France

MASTER DEGREE IN APPLIED MATHEMATICS

September 2012 - August 2014

Skills

Programming	C++, Python, Javascript, HTML, CSS, PHP, Swift, Matlab, Fortran
Mathematics	Finite Element Method, Reduced Basis Method, HDG, non-linear coupled problems
Database	MySQL, MongoDB, Elasticsearch
Data	Basic knowledge with TensorFlow, Keras
DevOps	Git, CMake, Docker, Singularity, Buildkite, Github Action, Slurm, LaTeX

Certifications

2018	Test of English for International Communication (TOEIC) , Score: 990	Strasbourg, France
2013	Cours Machine Learning , University of Stanford	Coursera