

Hugo ITENEY, Ph.D.

Mechanical developpement engineer

As a Ph.D. engineer in materials mechanics and numerical methods, I am looking to get involved in a mechanical modeling project. Rigorous, curious, and autonomous, I quickly adapted to the available tools while collaborating within multidisciplinary teams.

Work experience

Data and materials project manager — C2i construction Nancy, France

Since June 2024

Conduct the market consultation and acquisition phase.

- Design and optimize databases for cost estimation.
- Automate data collection and build performance tracking tools (Python, Excel).
- Perform market analysis and extract key performance indicators.
- Produce technical documentation, material selection, and functional dimensioning (AutoCAD).
- Communicate with managers, suppliers, and on-site teams.
- Generated €300k+ revenue in 2024.

Ph.D. student - Researcher in materials mechanics — Institut Matériaux Microélectronique Nanosciences de Provence Marseille, France

From April 2021 to April 2024

Modeling surface roughness and its influence on structural mechanics.

- Design and implement an object-oriented [Python code](#) for multi-scale modeling and meshing of roughened structures.
- Simulate compression, tension, and indentation behavior of 300 rough and/or oxidized metal structures (Abaqus, COMSOL).
- Analyze contact mechanics, materials strength, plastic deformation modes, and brittle fracture — compared with smooth and non-oxidized cases.
- Conduct parametric studies, statistical analyses, and extraction of mechanical laws (Python).
- Project management, international collaborations, author of technical reports, perform SEM/TEM microscopy tests, and interns supervision.
- C'Nano 2024 regional thesis prize award.

Thermal engineer — OHB System Munich, Germany

From March 2020 to September 2020

Active thermal control of the EnMAP satellite's hyperspectral instrument.

- Model thermal tests using finite element simulations (Thermisol, Esatan), analyze results (Excel), optimize the instrument's architecture.
- Enhance the internal analysis tools (Matlab, Fortran).
- Optimize test scheduling (-150h) and reduce costs (-€70k).
- Supervision of cleanroom thermal tests, correlation between simulations and real-world data, and cross-functional teams coordination.

Education

Ph.D. thesis in physics and materials mechanics — Institut Matériaux Microélectronique Nanosciences de Provence Marseille, France

From April 2021 to April 2024

Numerical simulation using Molecular dynamics (LAMMPS) and finite element analysis (Abaqus, COMSOL), 3D meshing and visualization (Gmsh, Paraview), Tribology, Plasticity, Brittle fracture, Programming and data analysis (Python, R, Git).

Engineering diploma (MSc) in advanced materials and structures for aeronautics — IMT Mines Albi Albi, France

From September 2017 to September 2020

Numerical simulation using finite element methods (Abaqus), CAD (CATIA V5, SolidWorks), Material properties and processes, Thermodynamics, Project management.

Double Master's diploma - Research Master in materials and structures mechanics — Université Paul Sabatier Toulouse, France

From September 2019 to September 2020

Advanced analytical calculation methods, Aeroelasticity, Plasticity, Fracture mechanics, Non-destructive testing, Nonlinear dynamics.

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- 📄 Driving licence (B)
- 📍 Geographically flexible
- 🔗 [linkedin.com/in/hugo-iteney/](https://www.linkedin.com/in/hugo-iteney/)

Languages

- **French** : Native.
 - **English** : Fluent.
- Speaker at international conferences (TMS Orlando, MMM Baltimore), [author of scientific articles](#), TOEIC 920/990.
- **German** : Intermediate.
 - **Russian** : Basic.

Computer skills

- **ANSYS, Abaqus, COMSOL**: Linear/nonlinear structural analysis, composites, thermomechanics, elastoplasticity, modal analysis, manufacturing processes.
- **CATIA, SolidWorks**: A380 bogie design, structural integrity and sizing, material selection.
- **AutoCAD**: Creation and modification of technical plans for project execution and monitoring.
- **Python**: Data manipulation (Numpy, SciPy, Pandas), data visualization (Matplotlib, Seaborn, OpenCV), version control (Git, Sphinx), API development (FastAPI), web scraping (Requests, BeautifulSoup). [Personal team project](#): Developed an automated [trading bot](#).
- **Operating Systems and HPC**: Windows, Linux (Bash, AWS).
- **Office and documentation**: MS Office, LaTeX.

Volunteer Experience

- **President of "La Main à la Pâte"** : Promoted science awareness among children through hands-on activities and organized a scientific conference for 200 attendees.
- **Student Union Board Member**: Led inter-school collaborations and managed a 400-student event.

Hobbies

Tennis in competition for 20 years, Running (10km, 21km), Squash, Collect and trade playing cards, Music festivals, Traveling.