

TIANYI LI

PhD, R&D engineer in multiphysics, numerical simulation and scientific computing

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EXPERIENCES

Research and Development Engineer

Promold TPE – consulting in simulation methods for plastics
Apr 2017 – Paris 17e, FRANCE

- Multiscale rheological and mechanical modeling of fiber-reinforced polymers: anisotropic viscosity, porosity prediction and material failure behavior
- Code implementation under **Moldflow** for process simulation using **C++**, and under **Optistruct** / **code_aster** for structural analysis using **UMAT** / **Fortran**
- Uncertainty quantification and propagation for injection molding simulations using **OpenURNS**
- Development of information transfer methodology between process and structural analysis; creation of a GUI-based toolbox using **Python**
- Development of business-oriented tools: procedure automation, pre and post-processing of data (**ParaView**), batch generation

Junior Research Engineer (PhD Candidate)

IMSIA (CNRS-EDF-CEA) PME – applied research lab
Oct 2013 – Sep 2016 Palaiseau (91), FRANCE

- Dynamic fracture modeling of brittle materials for concrete structures, with a novel non-local constitutive behavior
- Structural analysis, and code implementation in an industrial explicit dynamics finite element program **Europlexus** using **Fortran**
- Design and implementation of parallel computing architecture using **MPI** and **PETSc** under **Europlexus**
- Contributions to the open-source scientific computing libraries **FEniCS** and **PETSc** using **C++**

Numerical Simulation Engineer

Promold TPE – consulting in simulation methods for plastics
Apr 2013 – Aug 2013 Paris 17e, FRANCE

- Fiber orientation modeling for process (injection molding) simulation of fiber-reinforced polymers with **Moldflow**
- Integrative structural analysis under **Optistruct** and **Radioss** with process-induced microstructural properties using **Digmat**
- Automation scripting under **HyperWorks** using **Python** and **TCL**

Structural Analysis Engineer (Intern)

Faurecia Interior Systems GE – automotive equipment supplier
Sep 2012 – Feb 2013 Méru (60), FRANCE

- Elastoplastic constitutive modeling of long-fiber reinforced thermoplastics for the automobile industry
- Numerical analysis and code implementation using **Python**
- Static, modal and dynamic structural analysis under **Abaqus**

Mechanical Design Engineer (Intern)

AML-Systems PME – automotive equipment supplier
Sep 2011 – Feb 2012 Le Bourget (93), FRANCE

- Design and static analysis of headlamp cleaning systems using **Catia**
- Analysis of experimental data using **Matlab**

MOST PROUD OF

- 7 reviewed research articles and \approx 100 citations since
- 2 submitted patents at the INPI with the kind support of our team
- 5 involved open-source projects with positive feedbacks

STRENGTHS

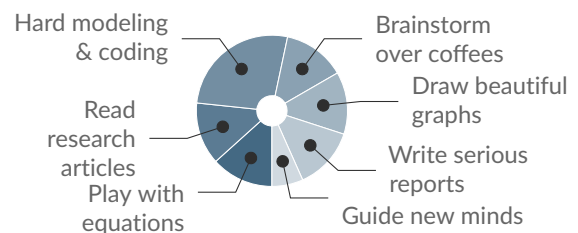
Efficiency Curiosity Polyvalence

Mechanics background Python C++

Fortran CAD/Finite element software

Scientific and business communication

TYPICAL DAY AT WORK



LANGUAGES

Chinese ●●●●●

French / English ●●●●●

EDUCATION

PhD in Solid Mechanics

Univ. Paris-Saclay (Ecole Polytechnique)
2013 – 2016 Palaiseau (91), FRANCE
Supervisors: Jean-Jacques Marigo (I'X), Daniel Guilbaud (CEA) and Serguei Potapov (EDF)

Engineer in Mechanics

Univ. de Technologie de Compiègne
2010 – 2013 Compiègne (60), FRANCE

Bachelor in Mechanics

Univ. de Technologie Sino-Européenne
2007 – 2010 Shanghai, CHINA