

Thomas Laporte.

Engineer in applied mathematics and modeling, specialised in numerical engineering

Experiences.

PhD relay (Sept 2018 - Sept 2019)

Laboratory J.A. Dieudonné and Inria Sophia-Antipolis - Nice, France

Segmentation and extraction of lungs and bronchial tree from medical images (CT-Scan). Mesh fitting using B-Splines.

5th year project and internship (Sept 2017 - Sept 2018)

Laboratory J.A. Dieudonné - Nice, France

Auckland Bioengineering Institute - Auckland, New-Zealand

Mechanical study of the respiratory system (lungs and bronchial tree). At the LJAD, the modeling was done on Rhino 3D and the simulation on Abaqus. At the ABI, the work was carried out on subjects by making a specific 3D model, from medical images, and a mechanical study of each case.

4th year internship (Juin 2017 - Aout 2017)

Inria Sophia-Antipolis - Nice, France

Modeling of the movements of the fingers of the hand. Project done in C++ with a visualization via Axel (Inria's software).

Entrepreneurship (Sept 2017 - Dec 2018)

Nice, France

Graphic charter and design for a mobile application.

Education.

PhD - Applied Mathematics (Depuis Septembre 2019)

Laboratory J.A. Dieudonné and Inria Sophia-Antipolis - Nice, France

3D modeling of the respiratory system and simulation of the effects of free diving.

Thesis supervised by Benjamin Mauroy (CNRS) and Angelos Mantzaflaris (Inria). Segmentation lung lobes and bronchial tree on medical images, using Deep Learning algorithm. Generation of the bronchial tree, via a filling model, in the morphological structures of the pulmonary lobes. Numerical simulation of an apnea dive, by FEM method, on the 3D models. The programming languages are C++, Python and Julia.

Engineering degree - Applied Mathematics and Modeling, Numerical Engineering option (2015 - 2018)

Polytech Nice Sophia- Nice, France

Engineering tools in applied mathematics and modelling, such as computer-aided design, optimisation methods or numerical analysis, solid and fluid mechanics from a theoretical point of view but also the use of software such as Matlab, Abaqus, Rhino 3D for the practical side

Polytech preparing cycle (2013 - 2015)

Polytech Nice Sophia- Nice, France

Learning the general tools needed for engineering school, such as computer science, mathematics and physics.

Baccalauréat S - Graduated with honours (2013)

Lycée Albert Calmette - Nice, France

Science subjects, equivalent to British A Level or American High School Diploma. Specialised in Mathematics.

Informations.

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Email

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Licence

Permis B

Linkedin

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Skills.

Computer languages

C++, Java, HTML, CSS, Python, Julia,
Scilab, Fortran, Matlab

Computer software

Abaqus, Solidworks, Rhino 3D, Paraview,
Meshlab, GMSH

Languages

English (TOIEC : 855), Spanish

Hobbies.

Sports

Football (14 years of competition)
Running (5 years of competition)
Skiing (20 years of competition)

Other

Travel (Canada, Turkey, Egypt, New
Zealand, Croatia)
Series & Films
Reading

Others.

Volunteering (Since 2010)

Volunteer during running and triathlon competitions.

Respo Ski at BDE Polytech Nice (2016)

Organisation of a ski week for the students of the school.