Théo Lemaire
Bioengineer & Versatile Programmer

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💼 EXPERIENCE

Ph.D. in Neuroengineering | TNE Lab, EPFL
📅 Apr 2016 - Present 📍 Campus Biotech, Geneva, CH
Developing computational models to understand and optimize *Ultrasound Neuromodulation* at sub-cellular, cellular and anatomical scales. 🔗 *Web app*

Ski & Snowboard Instructor | Ecole du Ski Français
📅 Jan 2013 - Present 📍 Monts Jura, FR
Teaching private and collective lessons to skiers of all levels and ages. In charge of local competition group since 2016. State diploma training currently underway.

Mathematics Teacher | Institution Jeanne d'Arc
📅 Nov 2015 - Dec 2015 📍 Gex, FR
Managed 3 classes (ca. 75 students, ranging 10-15 years old).

Software Engineering Intern | Zenith Technologies
📅 Apr 2013 – Aug 2013 📍 Cork, IRL
Designed a *C++* application to extract relevant data from a database and provide team leaders with a comprehensive overview of their project's evolution. Created *VBA* scripts used by collaborators to generate documentation.

Kinesiology Lab Intern | Geneva University Hospitals
📅 Aug 2012 - Jan 2013 📍 Geneva, CH
Developed a *MATLAB* framework (UI, processing & graphing tools, interaction with hospital database, automated reporting) to analyse biomechanical data from clinical exams. Used by lab members for daily reporting and scientific publications.

📑 ACADEMIC PROJECTS

Master's thesis in Neuroprosthetics | TNE Lab, EPFL
Assessed the preformances of different types of implantable electrodes within a peripheral nerve, using FEM models of electromagnetic propagation (*Sim4Life* platform) coupled to morphological neuron models (*NEURON* simulator).

Project in Biorobotics | BIOROB Lab, EPFL
Developed the image processing pipeline and navigation strategy for a differential wheeled robot to complete a slalom course through rectangular gates.

Project in Digital Humanities | DH Lab, EPFL
Developed an innovative spatio-temporal epidemics model to study the propagation of the Plague in the city of Venice during Middle-Age. 🔗 *Venice Atlas*

🔧 TECHNICAL SKILLS

🐍 **Python**	Computing & analysis stack (*numpy - scipy - pandas - matplotlib*) • Machine learning (*scikit-learn*) • PDE systems & FEM models • Multi-threading/processing • Neural simulations in *NEURON* • *Jupyter notebooks* • Automation tasks •Interaction with APIs
⚙ **C++**	Object-oriented programming • IO streams • XML-quering • GUIs • Multi-threading (*Boost*) • 3D graphics (*OpenGL*)
📌 **Matlab**	Scientific computing • Machine learning • GUIs • SQL queries
🖥 **Front-End**	Responsive web pages (*Javascript - HTML - CSS - Bootstrap*) • Interactive visualizations (*D3JS - Plotly*) • Interactive UI components (*React.js - Dash*)
📄 **MS Office**	Word - Excel - Powerpoint • Automation with Python / VBA

◆ **Git** • ⌣ **Illustrator** • LᴬTEX • **LabVIEW**

🎓 EDUCATION

MSc in Bioengineering
Minor in Neuroprosthetics
EPF Lausanne
📅 Sept 2013 - Sept 2015 📍 Lausanne, CH
GPA: 5.34 / 6.0

BSc in Life Sciences & Technologies
EPF Lausanne
📅 Sept 2009 –July 2012 📍 Lausanne, CH
GPA: 4.92 / 6.0

Scientific baccalaureate
Lycée Int. Ferney Voltaire
📅 Sept 2006 - July 2009 📍 Ferney, FR
GPA: 18.71 / 20.0

📔 COURSEWORK

Graduate
Sensorimotor neuroprosthetics
Flexible bioelectronics
Image processing • Machine learning
Dynamical systems • Biomechanics
Gait analysis & modeling
Computational motor control
Bioinformatics • Systems biology
Digital humanities

Undergraduate
Analysis • Algebra • Physics
Chemistry • Organic chemistry
Cellular biology • Molecular biology
Numerical analysis • Statistics
Electronics • Signal processing
Programming (C | C++ | Matlab)
Development biology • Microbiology
Physiology • Genetics • Genomics
Fluid dynamics • Transport phenomena
Biothermodynamics • Neuroscience

💬 LANGUAGES

French	★★★★★
English	★★★★★
German	★★★☆☆
Russian	★☆☆☆☆

♥ HOBBIES

Science Taekwondo Football TV Shows
Skiing Hiking Cycling Travels