

# Louis F. Abraham

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## Skills and Tools

**Research experience:** Deep learning, algorithms, cryptology, SMT solving, genetic programming.

**Programming languages:** Python 3 (CPython, **PyPy**), **Cython**, C(++), OCaml, Javascript (DOM), Java...

**Software / Libraries / Tools / Technologies**

- Scientific programming: **NumPy**, **SymPy**, **SageMath**.
- Data science: **scikit-learn**, **pandas**, **h5py**.
- Deep learning: **PyTorch**, **Keras**, **Tensorflow**, **Caffe2**.
- High Performance Computing: **Numba**, **NumExpr**, **Dask**, **SCOOP**, MPI.
- Web: search, scraping, automation, development (**Bootstrap**, **Flask**, **Vue.js**), servers (**nginx**), hosting, DNS.
- Information security / reverse engineering: most Kali Linux tools, decompilation (AS3 P-code, x86 assembly)...
- Miscellaneous: Unix, **git**, Blockchains, **Ethereum**, SQL, NoSQL, ORM, regular expressions, **OpenCV**...

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## Education

2018 - 2019      **Master of Science ETH in Computer Science** - ETH Zürich

2015 - 2019      **Ingénieur Polytechnicien** - École polytechnique (Palaiseau)  
*Majoring in computer science and mathematics in France's top scientific school.  
Youngest candidate accepted (became senior bachelor student when 17 years old).*

2013 - 2015      **Classe préparatoire aux Grandes Écoles MP-Info** - Lycée Louis-Le-Grand (Paris)

since 2007      **Music** (piano, harmony, analysis, conducting and other topics) - Conservatoire de Paris

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## Experience

2018      **Deep Learning Researcher** - **ENS Ulm** / **EHESS** / **CNRS**  
*Probing the internal structure of self-supervised representations using ABX-discriminability.  
Under Review. Supervised by **Ronan Riochet** and **Emmanuel Dupoux**.*

2017      **Study on Digital Identity in France**  
*Study commissioned by the French Ministry of the Interior's Centre for Advanced Studies  
(**CHEMI**) and carried out along with the ENS Ulm (Prof. David Naccache).*

2017      **e-FICC Quant Researcher** - BNP Paribas CIB, London

2017 - 2018      **Founder & Head of BADaS** (*Binet Algorithmes et Data Science*)  
Student association for **competitive programming**, **data science** and **CS events**

2016 - 2017      **Oral examiner in mathematics** - Lycée Louis-Le-Grand (Paris)

2015 - 2016      **Administrative analyst** - French Ministry of Foreign Affairs

2015      **French army officier training** - École polytechnique

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## Awards

- **ACM ICPC SWERC** (2016, 2017, 2018): European algorithm competition. Bronze medal.
- **Data Science Game** (2018): International data science competition. Captain of Polytechnique's team that went to the finals and ranked 14<sup>th</sup> / 128.
- **GSA Ultra 2018**: Python programming competition. 3rd prize winner (hundreds of contestants).
- **Concours Général** (2013): Most prestigious academic competition in France. Distinction in Mathematics, youngest laureate of all subjects.

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## Others

**Languages**      French (native speaker), German (Goethe-Zertifikat C1), English (TOEFL 110/120).

**Music**      Piano: winner of international contests, concert soloist with orchestral accompaniment.

**Sports**      Horse riding, Skiing, Swimming, Scuba diving.

**Hobbies**      Literature, Philosophy, Competitive programming, Anime, Video games.

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