

Lucas Mahieu

Deep Learning for embedded systems

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Engineering Master's Degree in embedded systems and software

Education

- 2015-2017 **Grenoble INP Ensimag**, *Engineering Graduate School in Computer Science*, ranked #2 in France.
Master's Degree in Embedded Systems and Software: operating systems, algorithmic, security, constraints of embedded, realtime, concurrency, distributed systems, architecture of SoC, year-end rankings 3th/30, 15/20 (A)
- 2014-2015 **Grenoble INP Phelma**, *Engineering Graduate School in Physics and Electronics*, ranked #2 in France.
BD in computer architecture, electronics, signal processing, mathematics, microprocessors projects, year-end rankings 13th/363
- 2012-2014 **Top School Preparatory Classes**, Mathematics, Physics, Engineering Science.
Two very intensive years preparing to top school selection : final rankings 752th/5084, *Military School of Aix-en-Provence*
- 2011-2012 **French A-Level in Science**, with great distinctions (18/20 top 7,5% students), Maths, Physics, Science for engineering.

Experience

Work

- 2017 **End of Studies Internship**, *CEA LETI*, Occupation grid interpretation by innovative deep learning network for automotive.
Tensorflow – RNN – Attention model – Memory Network – Occupancy Grids. Grenoble, France, 6 months internship.
- 2016 **Assistant engineer**, *CEA LETI*, Design of an energy management demonstrator for embedded SoC Linux.
NXP iMX6Q – Linux Governors – DVFS – Reinforcement Learning policy. Grenoble, France, 6 months internship.
- 2015 **Machine-Operator**, *STMicroelectronics*, management of production flow in clean room by night, Crolles, France, 3 months.
- 2014-2015 **Private tuition**, Science private tuition for three A-Level students, *Grenoble, France, 2 years.*
- 2013 **Reservist in French Navy**, *Naval base of Toulon, Toulon, France, 1 month.*
- 2011 **Commis chef**, in a restaurant in a team of three persons, south of France, 2 months.

University projects

- 2016 **3rd year project**, *Design of an Artificial Neural Network IP on FPGA*, tested with MNIST database, in group of 3, 200 hours.
- 2016 **2nd year project**, *Implementation of a visual odometry system (SVO) embedded in a DIY drone*, full-time during 1 month, school mark: 17/20 (A).
- 2016 **Introduction to research in laboratory**, *studying Self-Test secure crypto-processor, BIST for symmetric-key algorithms on composite field: GCF AES*, Laboratory TIMA, Grenoble, once a week during 4 months, school mark: 18/20 (A+).
- 2016 **Compiler project**, *development in Java of an object-oriented language compiler.*
Analyze, design and test of all compilation chain, in group of 5 students during 4 full-time weeks

Personal projects

- 2016 **Deep Learning MOOC**, *www.coursera.org, www.udacity.com, stanford and MIT courses on Deep Learning*, Regression, Classification, MLP, CNN, RNN, Attention model, Memory Augmented Networks, Supervised Learning policy, on free time.
- 2014-2017 **NXP (Freescale) Cup**, *global competition where student build, program and race an autonomous model car around a unknown track: "the fastest car wins". ARM Cortex, camera, MEMS, SPI. On free time, ranked 1st in France, 11th in EMEA.*
- 2014-2016 **Robotics club**, Programming and building robots, electronic circuits design, i2C, SPI. *Since 3 years on free time.*

Skills

- Languages: French: native, English: fluent, B2 european level
- OS: Linux, OS X, Robot OS (ROS)
- Programming language: C, C++, Python(+Tensorflow), Java, Assembly, Shell, SystemC, VHDL, SQL
- Tools: Vim, Git, Tensorflow, Gdb, Valgrind, Slack

Miscellaneous

- Sports: Paraglider – Glider – Badminton – Hiking – Motorbike
- Hobbies: Computer science – Machine learning – French cuisine