

David TOCAVEN

Master's degree in real time systems and automation

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French
Driver's licence



► Education

- 2015 – 2018 **Real-time systems engineering - EEA master's degree**
Paul Sabatier University Toulouse
- 2013 – 2015 **Electronic, Electronic engineering and automatic Bachelor's degree**
Paul Sabatier University Toulouse
- 2010 – 2013 **Scientific stream Baccalaureate**
(equivalent to High School diploma)
La Borde Basse High School Castres

► Work Experience

- Apr. to Aug. 2018 **Research internship, LAAS-CNRS, Toulouse**
Active diagnostic, hybrid system, observer, parity space
(5 months)
- 2016–2017 **Research internship, LAAS-CNRS, Toulouse**
DEVS model, discrete time, discrete events, modelling
(4 weeks)
- 2016 – 2017 **Master project, Paul Sabatier University, Toulouse**
Scientific method, automaton, project management, Matlab
(6 months)
- 2016 – 2017 **Research internship, LAPLACE, Toulouse**
Optic, digital image processing, thermal science, Matlab, \LaTeX , Discovering the research world
(5 weeks)
- 2016 to present **Private lesson, Toulouse**
Mathematics and automatic, Teaching skills and mathematical visualization

► Skills

► Automatic control – discrete and continuous time

- **Modelling** : State space, linear and non linear, linear multiple input-output, uncertain, time delays system
- **Analysis** : Frequency, temporal (linear and non-linear), Lyapunov theory, performance, uncertain system, robustness, stability of times delays system
- **Control** : PID, multiple input-output, robust, Observer based state feedback, late system

► Automatic control – Discrete events systems

- **Modelling** : Automaton, Petri net (standard, stochastic, timed), $(max, +)$ algebra, Discrete Event Specification (DEVS), Language
- **Analysis** : Cyclicity, controllability, diagnosability, determinism, coverage tree, marked and recognized language
- **Control and diagnostic** : Supervised control, diagnoser, observer
- **Implementation** : Test, simulation, C, VHDL and ST implementations, Oriented object approach

► Implementation

- **Computer science** : System modelling (UML, UML2, SysML, embedded systems), object-oriented, parallel (mutual exclusion, synchronisation, thread, multitasking)
- **Industrial computing** : DSP notions, Microcontroller basics,
- **Real time** : OSEK/VDX standard, scheduling, RTOS, requirement checking, reactivity
- **Network** : Internet basics, Network Calculus, CAN, AFDX, real time network

► Software skills

For automatic : **Matlab** : Simulink, OOP, GUI, RTW
For computer science : **Eclipse, Git, Doxygen**
Office software : **TeXmaker, Microsoft office suite, Free Office Suite**

► Languages

Matlab good knowledge, \LaTeX good knowledge, C good knowledge, Assembler notion, VHDL good foundation, ST and IL-LIST notion, Arduino good foundation, Java basics, C++ notion

► Language and communication skills

- **Language** : French (mother tongue), English
- **Communication** : Oral and written in French and English
- **Project management** : Gantt, WBS, RACI, Agile

► Personal interests

📷 Photography

🌻 Travels

🚲 Do-it-yourself (bike trailer, electronic, ...)