

# David TOCAVEN

Master's degree in real time systems and automation

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🌐 DavidTocaven

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*

## ► 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

### ► Software skills

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

## ► Personal interests

📷 Photography

🌻 Travels

## ► 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

### ► 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

### ► 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

### ► 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

### ► Language and communication skills

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

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