

### Experience

#### Vocational

- 2015 **Internship in the USA**, *Robotics Laboratory, University of California*, Santa Barbara.  
A 6-month internship designing control strategies for a robot modeled as a planar three-links system in MATLAB/Simulink.  
**Detailed achievements :**
- Developed a Newton-Raphson type algorithm and used a computationally tractable meshing algorithm of the reachable state space of the system in the prospect of optimizing dynamic stability and obstacle avoidance.
- 2014 **Internship in Australia**, *Intelligent Control Systems Laboratory*, Gold Coast.  
A 15-week internship consisting of developing and designing an autonomous vehicle.  
**Detailed achievements :**
- Controlled ultrasonic sensors and DC motors using a Raspberry Pi; implemented an algorithm to achieve collision avoidance; completed three-dimensional modeling of the vehicle using SolidWorks.
- 2013 **Internship in Japan**, *Tohoku's Space Robotics Laboratory*, Sendai.  
A 10-week internship studying attitude determination of the RISESAT satellite in a MATLAB/Simulink environment.  
**Detailed achievements :**
- Implemented a coarse attitude determination method (Triad method); compared non-measurable vector extrapolation methods; studied Kalman filters.

#### Projects and Relevant coursework

- Projects Attitude control of a Myriad-like satellite using  $H_\infty$  control method ; modeling and control of a semi-active suspension using CRONE control method in a MATLAB/Simulink environment.
- Relevant coursework Control systems design, model-based design, system identification, PID control, mathematical modeling, non-linear systems, signal processing, frequency-domain design of robust control-systems, simulation and control of robotic systems, actuators, design of robust control-systems using optimization methods, random process theory.

### Publications

Virgile Paris, Tom Strizic, Jason Pusey, and Katie Byl. Tools for the Design of Stable yet Nonsteady Bounding Control. *Accepted for 2016 American Control Conference (ACC)*, 2016.

### Computer skills

Software	<b>MATLAB/Simulink, SolidWorks, ModelSim, Excel, Office, Cadence</b>	OS	<b>Linux, Windows</b>
Programming	<b>MATLAB, C, C++, VHDL, Python, Bash, HTML5, CSS3</b>	Other	<b>Latex, Word, Emacs</b>

### Education

- 2012-2015 **Double Degree : Engineering Diploma & Master's Degree in Control Theory**, ENSEIRB-MATMECA & *Bordeaux 1 University*, Bordeaux.  
ENSEIRB-MATMECA, Engineering School of Bordeaux Institute of Technology.  
Bordeaux 1, University of Bordeaux Institute of Technology.
- 2009-2012 **Competitive exam**, *Albert Schweitzer*, Le Raincy.  
A 3 year intensive Math and Physics course in preparation for the selective entrance examination to French engineering schools.

### Languages

French	<b>Native</b>	
English	<b>Professional Working Proficiency</b>	<i>Gave several presentations in Australia, Japan and the U.S. in collaboration with international teams</i>
Japanese	<b>Intermediate</b>	<i>10-week internship in Japan during which courses were taken to complement courses taken during engineering school</i>

### Interests

- Association ENSEIRB-MATMECA robotics association : participated in the French Robotics Cup in 2013

### Reference

- Internship in **Katie Byl**  
America, Associate Professor, Dept. of Electrical & Computer Engineering  
Robotics University of California Santa Barbara, CA 93106, USA  
Laboratory at ✉ [katiebyl@ece.ucsb.edu](mailto:katiebyl@ece.ucsb.edu)  
UCSB ☎ (805) 893-4924