

# Sarah DRAGOIU

HIL Systems Engineer

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HIL Systems Engineer with over 7 years of experience specializing in HIL real time plant modelling for Powertrain ECUs. My greatest strength is the desire to improve. It enables me to optimize workflows and save company's money, without compromising the quality.

## Technical skills

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- dSPACE HIL hardware architecture
- dSPACE Control Desk NG
- dSPACE Configuration Desk
- HIL Plant modelling in Matlab Simulink
- Vehicle systems simulation
- Sensors/actuators simulation
- Real/emulated loads connection
- Failure simulation
- Wiring harness design
- Autocode generation
- Communication protocols: CAN, CAN FD, SENT, J1939, LIN
- Vector CANalyzer
- Programming languages: C, C++
- IBM ClearCase and ClearQuest

## Experience

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2014 Jan - Present     **HIL Systems Engineer**  
Delphi Diesel Systems UK

### Technical:

- Created several HIL real time closed loop models in Matlab Simulink, for dSPACE Midsize and Scalexio HILs, to ensure a proper testing of the powertrain ECU for various customers;
- Designed several wiring harnesses for dSPACE HILs;
- Connected successfully several real/emulated actuators;
- Simulated successfully various classic and smart sensors, actuators and vehicle systems (common rail, transmission, etc.);
- Implemented HIL real time model support for communication protocols (CAN, CAN-FD, J1939, LIN, SENT) using the dSPACE RTI;
- Successfully upgraded several dSPACE HILs, both software and hardware, to support new ECU functionalities (SENT, CAN FD, lambda probe).

### Management:

- Managed the HIL real time models storage in ClearCase;
- Assigned the HIL model change requests to the HIL engineers;
- Supervised the HIL model development process is being followed;
- Trained and coached successfully several Engineers in HIL plant modelling.

### Key Achievements:

- Redesigned the HIL real time model to be faster, more robust and modular, prepared for automatic generation;
- Introduced a HIL model development process to ensure better quality;
- Designed a tool to generate automatically the generic part of the HIL real time model.

2009 Mar -  
2013 Dec

**Software Engineer**  
*Continental Automotive Romania*

**Technical:**

- Created several HIL real time models in Matlab Simulink;
- Designed several wiring harnesses for dSPACE and LabcarST HILs;
- Responsible with management and development of two tools (one in C and one in C++) used to read the fault manager recordings from the cars sent back with problems and display in human readable form the content of the freeze frames, for various customers.

**Management:**

- Managed the HIL real time models storage;
- Responsible with world wide (America, Europe, Asia) HIL support and advanced HIL development training;
- Member of Continental world wide HIL expert team.

**Key Achievements:**

- Created a wiring harness template, to decrease the time needed to design wiring harnesses;
- Implemented rules for wiring harness design and HIL model development, to ensure across sites compatibility.

2007 Sep -  
2009 Feb

**Junior Software Developer**  
*Hella Electronics Romania*

**Technical:**

- Created and executed tests for light sensors.

## Education

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2004 - 2009

**Bachelor of Science**  
University: Polytechnic University of Timisoara, Timisoara, Romania  
Major: Computer Science

## Courses

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2011 dSPACE Midsize Training

2009 Cambridge ESOL Level 2 Certificate in Advanced English, ESOL International