|  |  |
| --- | --- |
| **Speed Profile Prediction for energy management tailored to the driver-style** | |
|  | |
| **Period** | 6 months+ |
| **Place** | GMRL – Green Mobility Research Lab Facoltà di Ingegneria/FEV ITALIA Via Umberto Terracini 28 – 40131 Bologna |
| **Description** | Predicting the driver behavior is an enabler for the prediction and therefore the reduction of vehicle emissions.  Given real-time data on route and traffic, it is possible to design an adaptive speed profile prediction, which matches the driver style.  This master thesis focuses on completing the porting of the Speed Profile Prediction (SPP) function from a prototype Hybrid Control Unit (HCU) Simulink model, to an portable Python implementation. The SPP shall be tested on several platforms, including an Infotainment System and finally as service in the Cloud.  To validate the SPP and adapt the driver style parameters, synthetic driving data will be generated using dSpace ASM Traffic simulator.  Finally, traffic participants are introduced in ASM to reproduce the driver behavior, given navigation data from map service provider.  The project will be supervised by FEV engineers and PhD students. |
| **Requirements** | * Educational background in Electrical or Mechanical engineering. * Good knowledge of MATLAB / Simulink and Python programming. * Good English language skills in speaking and writing. * High motivation and commitment. |