Ruggero Fabbiano

PhD in Control Systems

project/data engineer

Puteaux (92)
Italian
B (European)

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Work Experience

On-off Science

Data engineer/scientist ★ Traffic data and prediction ★ September 2020 – present

- Generation of sets of traffic data via numerical simulation
- Generation of the corresponding database in PostGreSQL
- Server-side implementation of the simulation-database pipeline
- Data analysis and machine learning algorithms on the generated data

bertrandt — *Vélizy-Villacoublay* (78)

Team coordinator ★ ADAS (AEB) ★ January 2019 – present

- Technical coordination of the AEB team with Scrum Agile method
- Analysis and modelling of vehicle dynamics, and design of prediction strategies for autonomous braking (patent request ongoing) and control algorithms for the Renault ADAS controller
- Realisation of automated tests for the CI pipeline
- Backlog definition and task priorisation (sprint planning), backlog refinement, and realisation of "demos" to contractors
- Implementation of the transition from a V-cycle to a test-driven development (TDD)

Technical coordinator ★ Hybrid vehicle controller ★ February 2018 – February 2019

- Design and implementation of complex use-cases to test and validate the whole drivetrain controller of Renault hybrid vehicles
- Fully autonomous analysis of the produced results and technical reporting to the Renault unit chief, detection of anomalies in the controller code and dispatch/coordination of the corrections
- Functional management: manage prioritisation and arrange task assignment on the perimeter, participate in the validation of candidates and in annual reviews

Design engineer ★ Hybrid vehicle controller ★ September 2015 – March 2018

- Model-based design of control strategies for the automatic gearbox of Renault hybrid vehicles
- Analysis of client requirements and formalisation of functional requirements
- Unitary validation of the new features, precalibration and documentation of the degraded modes
- Draft of technical documents

Inria — Montbonnot Saint Martin (38)

Researcher ★ Distributed nonlinear control ★ December 2011 – May 2015

- Development of control algorithms to deploy a fleet of autonomous robots with no position information towards the source of an emitting process whose position is unknown ("source-seeking control")
- Mathematical/physical modelling of an emission process with finite-element methods, formalisation and solution of a distributed optimisation problem, design of distributed nonlinear control laws
- Formal proof of the controlled system properties and implementation of a prototype test robot
- Speaker at international research conferences and master internship supervision

Education

PhD	Control Systems	★	INP Grenoble	★	2015
M. Eng.	Computer Science	★	*Università degli Studi di Pavia*	★	2011
B. Eng.	Computer Science	★	*Università degli Studi di Pavia*	★	2008

Courses and Certifications

European first aid patent — Croce Rossa Italiana
Distributed Systems — EECI Yale University
Gestion des Conflits
Python for Data Science and Machine Learning — PIERIAN DATA
Django Rest framework *e* Vue JS — ProgrammareInPython
Hybrid Dynamical Systems: Stability and Control — EECI UC Santa Barbara
Process Comm.
Simulink for MBD — MathWorks
Python and Django Full-Stack Web Development — PIERIAN DATA
Back-end ReST API with Python and Django — LONDON APP DEVELOPER

Skills

Coding languages

- Python ★★★☆☆
- Matlab ★★★★★
- HTML ★★★☆☆
- CSS ★★★☆☆
- JavaScript ★★☆☆☆
- Bash ★★☆☆☆
- SQL ★★☆☆☆
- LaTeX ★★★★☆

Front-end frameworks

- Bootstrap ★★★☆☆
- jQuery ★★☆☆☆
- Vue JS ★★★☆☆

Back-end frameworks

- Django ★★★☆☆
- Django ReST ★★★☆☆

Tools

- Docker ★☆☆☆☆
- Travis CI ★★★☆☆
- Git ★★★☆☆
- Jira ★★★☆☆

Science

- Control systems ★★★★☆
- Machine learning ★★★★☆

Industry

- Simulink ★★★★★
- Agile ★★★☆☆

Languages

- Italian
- French
- English