Silicon Mobility

Apprenticeship Description

Framework Simulink Models Development and Verification
(SM-STA 007 / 2023)

Company	**SILICON MOBILITY SAS** *(registration number 815 085 659 000 RCS Grasse)* <u>Head office</u> : Les Aqueducs – Bât 2 – 535, route des Lucioles – 06560 Valbonne Sophia-Antipolis The Automotive industry is living a revolution. Electrification, autonomous driving, diverse mobility, and connectivity are trends that are changing the industry's rules. Among all decisive topics revolutionizing cars in the next future, Silicon Mobility is committed to supporting the rapid advent of electric and hybrid cars. Silicon Mobility is a technology leader for cleaner, safer, and smarter mobility. The company designs, develops and sells flexible, real-time, safe, and open semiconductor solutions for the automotive industry used to increase energy efficiency and reduce pollutant emissions while keeping passengers safe. We are looking for a motivated candidate to join our company in Sophia-Antipolis on the French Riviera. Please contact us: **internship2023@silicon-mobility.com**
Offer ref.	SM-STA 007-2023
Subject – Offer title	Framework Simulink Models Development and Verification
Duration	3 months internship + 12 months from September 2023 to September 2024
Work hours	35 hours per week, job location at Silicon Mobility office
Education	Last year of Masters (BAC+5 or equivalent)
Content/ mission	The candidate will integrate the R&D system team as a system engineer assistant. The Silicon Mobility solution is based on OLEA® FPCU (Field Programmable Control Unit) that embeds a CPU core, programmable logic, memories, and peripherals. A Framework for Matlab® has been developed to make usage of this hardware solution easier. The candidate's responsibility consists of developing Simulink model based on requirements and existing hardware, defining and applying a verification method to ensure that developed Simulink Models are behaving like the version embedded in the FPCU. This project will be divided into 3 main phases: <u>Ramp-up:</u> • Learning phase on the FPCU • Use Framework for a simple example as a training <u>Model specification and development:</u> • Analyse the existing hardware specification. • Specify the model functionality. • Develop model (using Matlab® Simulink) • Integrate the model in the automatic code generation flow. <u>Tests specification and Verification:</u> • Specify a method to verify Simulink Models (using potentially Matlab® and RTL simulation tool like QuestaSim) • Precisely describe the test method (with its specificities) • Develop the test and apply it. Report issue(s) to development team
Profile and skills required	For this apprenticeship, we are looking for a candidate with: • knowledge of Hardware design for embedded system • C/C++, Java, Verilog or VHDL language • knowledge of Matlab Simulink (would be appreciated) • good English level • autonomy, rigor, strong team spirit, strong problem-solving skills • Quality approach

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Skills developed during the internship	• Application software development • Matlab/Simulink/Coder tools and several toolboxes. • MATLAB® language • General knowledge in microcontroller development • Requirement analysis and specification writing • Methodology and Quality management skills
Remuneration	From 1400€/month + Lunch tickets + 50% of public transport

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