Thesis in Microcontroller Technical Marketing team

Title	Skill-set	Details	Type	Team
A1G SafetyKit code examples of ESM with ADS	Eclipse , C/C++, Safety Principles	This is a concept & operative Thesis whose scope is to extend the AURIX Development Studio Software examples for ESM of A1G. While writing code there will be the possibility to understand the Safety Principles of Microcontrollers and also to think about alternative solution for customers using existing resources and Safety principles coming from the standards. The skeleton of the project already exists, but functionalities are very limited. The goal is to extend them and bring the SafetyKit to a level useful to new customer as a starting point when working with Aurix TC2XX and Safety, looking more on code style wrt safety aspect and possible integration w/ OS (close to customer experience)	Master Thesis	Technical Marketing
VSCode AURIX debugger using DAS	JavaScript, VS Code, C/C++	Your task is to create a VSCode Debugger Extension (https://code.visualstudio.com/api/extension-guides/debugger-extension) which enables AURIX Devices to be debugged in VS Code using DAS. A Debugger Adapter Protocol (DAP https://microsoft.github.io/debug-adapter-protocol/) interface has to be written on top of the MultiCore Debugging (MCD) library	Master Thesis	Technical Marketing
Safety Embedded code in Multicore and Virtualized environment	Eclipse, C/C++, demo board, lab instruments	Writing an actual safety code by using multicore and virtual machines on TC4XX This safety code shall be executed on a single VM or more VMs and on different cores This safety code shall coexist with other QM codes resident on the same core but on different VMs Needed TC4XX Know-how and freedom-from-interference concept (Memory allocation, Protection, Isolation,....)	Master Thesis	Technical Marketing
PCMC competitor analysis	C/C++ Mandatory: experience with TI Piccolo/Delfino lab instruments opt: pcb design	Program MCU-DSP TI-Piccolo to implement peak current mode control for PSFB/DAB topologies Develop a simple adapter board to connect IFX designed AURIX power conversion kit and TI-Piccolo evaluation kit Execute test and report Compare results AURIX TC3xx+LITIX vs AURIX TC4xx vs TI-Piccolo	Master Thesis	Technical Marketing
Labeling techniques definition for defective RRAM hidden fail signatures identification	Python, Tableau, Machine Learning	he goal of the thesis is to collect the test logs of RRAM devices which were later proven to be defective, and to identify common signatures which may allow an early screening during production tests. Such signatures, derived through high volumes test data labeling techniques, may allow to reach the highest quality standards while keeping competitive test costs	Master Thesis	Research & Development