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1. Wireless Communication Vehicle Specialist

Student will be assisting the Wireless Communication Vehicle team in the following task(s):

1) Measure Wireless Radio Frequency on the bench and in the Vehicle with RF instruments (RF Antenna, RF Spectrum Analyzer, RF Signal Generator).
2) Support Wireless Communication Engineers in Daily tasks
3) Support Administrative Tasks
4) Setup equipment and Benches under direction of Engineers
5) Follow up and track tasks daily and propose improvement where applicable
6) Maintain a running report of daily activities for duration of the Internship
7) Able to work independently and with daily reporting and feedback to supervisor

Requirement(s):
1) Evidence of Wireless subjects in Bachelor studies.
2) Evidence of Wireless topics knowledge and correct understanding.
3) Evidence of usage of number of Measurement equipment in engineering studies.

2. Develop HMI Software and Integration Test Automation

Student will be involved in HMI embedded software test development and execution for the automotive instrument cluster with LCD display. The key tasks will be following:

- Automated test design and development
- Test Integration using latest industrial tools like Jenkins, Git and Robot Framework.
- Create concept and develop automated Build Verification Test (BVT) for state-of-the-art automotive in-vehicle networking technology
- Collaborate with other Software Engineers within an Agile software development team
- Conduct software unit and functional testing with defined test specification

Requirement(s):
- Programming skills in C/C++ and Python/other scripting language
- Knowledge in software testing and automation framework, such as Jenkins, Robot Framework and/or Google Test
- Knowledge in communication technologies (CAN, Ethernet/AVB) will be an added advantage

3. Mobile Software Engineering Intern

What you will be working on:

• Development of iOS / Android mobile apps

What you will experience:

- Interaction with a global team, from teammates in Singapore office to experienced mentors and colleagues in our Germany office
- Development of iOS / Android mobile apps in quick iteration cycles
- Taking part in discussion about the design of a product and implement technical side of things
- Participation and understanding of full project software lifecycle in an agile process

Requirement(s):
- Perform testing and/ or coding on mobile SDK libraries (requires coding skill) with experienced developers
- Willing to exposure to different programming languages/ mobile technologies depending on the tasks assigned
- Interest in mobile app development domain • Strong problem-solving skills and willingness to learn new knowledge
- Flexibility and adaptable to working on different topics/ technologies
- Team player who is independent, motivated, proactive, problem solver, energetic and good analytical skills
- Comfortable to work both alone or as a team with a mentor guiding if required
- Programming experience in one or more of the following: Java, Android, Swift, Kotlin, React Native
- Basic knowledge with RESTful APIs to connect mobile applications to back-end services

4. Electrical Engineering Internship (Instrument Cluster)

Student will be guided to understand the requirements for Automotive Electronics and assist the team to review design specification and test the outcomes. You will be performing tests and documenting your findings on automotive electronics

Requirement(s):
Familiar with introductory network analysis and circuit theory
Individual who is keen in learning and has good initiative

5. <u>Security Analyst Internship</u>

The Security & Privacy Competence Centre in Continental provides security solutions across departments and researches on new cyber-security technologies in automotive security analysis. We leverage on our security expertise to provide the following security services: design, build and protect automotive systems, including applications, data, and assets. The intern will work with us to defend threat attacks and improve the security analysis process. The intern will have hands-on on:
• Developing tools (such as fuzzing) to find and analyze security weaknesses in software
• Integrating security requirements into software development processes.
Requirement(s):
• Knowledge in Linux System
• C and Python programming knowledge
• Prior exposure to the automotive industry will be an added advantage

6. <u>Solution / System Architecture Intern</u>

Intern shall assist the team to design and build automation system (e.g Python script), to interface with Continental Automated Test Platform to collect System KPI parameters of Embedded Linux System.
The script shall then continue to perform analysis and produce actual measurable and comparable System KPI numbers.
The other part of the task is to design and build like above for Embedded Linux System resource utilization, using available Linux tool chain in embedded system. System shall be measured on several defined system case on various CPU and RAM loading including idle cases.
Requirement(s):
- Basic Linux knowledge and usage
- UML and System Design
- Scripting, e.g Python
- REST API
- Office tools, with Macro and VBA
- Object oriented programming, C or C++ will be good

7. <u>System Test Engineering Internship with Central Engineering</u>
Student will learn Continental products, System Test Tool, Automation Tool.
He/She will be trained using CANoe Software and Automation, Test Method, Test Strategy, Test case design, Test tools, Test process.
He/She will perform system level test for Continental product.
He/She will also be collaborating closely with Test manager and the test team during the internship.
Requirement(s):
- Basic programming skill
- Basic Electronics, Embedded Systems knowledge
- Good analytical skill
- Willing to learn new things, such as doing measurements using oscilloscope.
- Good attitude, willing to take initiative

8. <u>Security Analyst Internship</u>
Students will work on one of the following tasks:
- Automotive security demos setup for internal and customer show cases (embedded system) - Block chain for supplier chain management demo -automotive Ethernet demo - other research PoC demo
- Lightweight IoT security for automotive (smart lamp post etc.) - Working on automotive ECU platform - Performance evaluation of lightweight cryptography
Requirement(s):
- C, C++ coding skill
- Basic hardware skill
- Security knowledge is a plus, but not compulsory

9. <u>Embedded Software Developer for Instrument Clusters</u>
Student will be involved in:
Embedded software and tool development, and also testing for the automotive instrument cluster with LCD or Full Digital Display: - Concept study and requirement analysis - Module design, development, test - Tool chain development
Requirement(s):
- Career interest in embedded software development
- Good knowledge in software engineering such as C, C++ programming

10. Assistant Software Engineer for Interior Camera Team

Develop scripts or tools to support existing engineering toolchain (machine vision application) Participate in prototype or demonstrator development (camera product) Support data collection, analysis, and measurement (e.g. video recording)

Requirement(s):
- Proficient in C, C++, QT, Python, and scripting
- Electrical know-how
- Responsible, organized, and self-motivated
- Able to propose ideas and solutions to resolve problems with minimal supervision

11. Backend Service Engineering Intern

What you will be working on:
- Development of backend cloud services

What you will experience:
- Collaborate with a global team including colleagues from Singapore, Germany, and Mexico
- Development of backend and cloud services and understand software development cycles using agile development methodologies
- Exposure to popular backend service platforms, frameworks and libraries (i.e NodeJS, Python, Amazon Web Services, etc.)
- Plan, design, implement, and test SQL and/or NoSQL databases for persisting application data
- Plan, design, develop, and test re-usable components, modules, and services for usage across a variety of clients including web and mobile applications

Requirement(s):
- Interest in backend software development
- Proactive and motivated learner with a willingness to explore new technologies
- Team player with the ability to work independently
- Able to document learning points and technical details is a must
- Analytical and creative problem-solving skills will be preferred
- Basic backend programming knowledge in NodeJS, Java, Python or similar will be preferred
- Experience with SQL or NoSQL databases development and integration will be preferred
- Basic knowledge with RESTful APIs and/or WebSocket connection development will be a bonus
- Experience with any backend programming framework and/or libraries will be a bonus

12. Automotive Functional Security Software Engineer

Student shall be working with the team on the following tasks:
- Assisting the team on maintaining and increasing test automation of encrypted VKMS via CAPL, as well as Arduino device
- May extend to assist on security feature development according to current established European OEM requirements

Requirement(s):
- Students with information security knowledge with be beneficial.

13. Automated Integration Test Development

Student will be able to learn and assist the team in the following way(s):
- Able to understand the test objectives and test specifications
- Able to learn and use programming tools and scripts
- Able to setup the test equipment and environment
- Able to understand and execute the manual test before automated test can be developed
- Able to roll out and introduce automated test into existing projects

Requirement(s):
- Programming languages such as C/ C++, OOP, Perl, Python, LabView OR LabWindows will be good

14. Android Developer

Student will be assisting the team in the following task(s):
- Work closely with product, UX/UI and backend teams to design and build customer-facing new products and features
- Responsible for creating good user interface design for mobile native apps, coding and connecting with API
- Exploring and enhancing application in new and emerging technologies
- Conducting system testing to ensure applications conform to user requirement

Requirement(s):
- Programming experience for Android mobile application with (Android Studio)
- Knowledge of mobile app UI design principles, patterns, and best practices
- Familiar with SDK, APIs, different versions of Android
- Knowledge in JAVA and Database

15. Embedded SW Internship for Connectivity & Info Mgmt

Intern would be working closely with the team in the following tasks:

- Develop software applications and necessary APIs
- Rapid prototype developments
- Design, implement, test and deploy prototype to ready solutions from scratch
- Perform technical self-research to identify solutions and diagnostics for troubleshooting
- Conduct site surveys, collect data and perform test procedures

Requirement(s):

- Familiar with programming languages C++, Python, Java, C# or etc.
- Experience in SQL and database concepts
- Experience with Android apps development or object-oriented programming
- Added Advantages with experience in HTTP, REST API, Bluetooth/BLE protocol, MQTT
- Experience with embedded development kit such as Arduino, ESP8266, STM32, etc.
- Able to read schematics and circuits and troubleshooting
- Experience with sensor module such as IMU, Accelerometer, GPS
- Good communication skills, fluent in English, both written and oral
- Willing to learn and try new things
- Highly motivated and driven individual