### Summer Internships for Undergraduate Students 2020

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Cadence Design Systems

Developing advanced Specman debugging aids

Job Description: Specman is a leading state of the art EDA tool that provides advanced automated functional verification of hardware designs. It is used by most of the leading EDA companies. Specman has its own propriety aspect oriented verification language called e.

In this project the student will develop different debugging aids to be used by customers. The debugging aids might include some or all of the following (generated automatically out of a user e code):

1. Graphical representation of methods’ calling graph
2. Graphical representation of complicated temporal expressions
3. UML visualizing the user’ design

The work itself will include (in a Linux environment):

1. Implementing graphical modules in Python
2. Connecting to the Python API of Specman
3. Writing modules in e using different Specman APIs like a reflection API

During this project, the student is expected to:

1. Acquire knowledge and experience with Python graphical libraries
2. Acquire knowledge of an advanced aspect-oriented language
3. Acquire knowledge relating to advanced SW language concepts such as parsing and reflection
4. Be exposed to the EDA field
5. Work with experienced senior SW engineers
6. Acquire experience in reading APIs documentation and using them

Note:

* The work can be done by using the existing Specman APIs thus, the work can be done remotely, no need to have access to Cadence source control.
* The project or number of aids can be extended and be suitable to more than one student.

This blog describes a similar smaller project we had.

Requirements:

1. Knowledge in Python
2. Passion to challenges and interest in high-level programming languages theory.
3. Self-learning abilities

Contact Details: Orit Kirshenberg (okirsh@cadence.com)
Mellanox Technologies

Redfish controller/analyst

**Job Description:** Develop GUI & protocol analyzer which illustrates a Redfish schema with its annotated attributes. Reading a Redfish schema files and converting them into GUI based hierarchical representation. The tools shall display the present values which are to be extracted from the queried values and allow the user to request modification of writeable attributes, followed by queries to validate the application of the modified values.

According to the Redfish protocol, the tool shall provide meaningful feedback according to the standard-defined error-codes when a known error-code is reported.

A communication session shall be logged for offline processing, with the ability to “play” a recorded session by reading a previously recorded log file.

**Requirements:** Learning Redfish protocol & schemas, GUI development, HTTP/HTTPS protocols use.

**Contact Details:** Yuval Itkin ([yuvali@mellanox.com](mailto:yuvali@mellanox.com)), work phone: +972 (74) 723 7042
Job Description: Working in a leading IIOT product, you will work on improving the CI/CD pipeline using the latest tools and technologies in the market like: Kubernetes, Cloud, SonarQ, GitLab and Docker and including high code standards and best practices.

Requirements: Students with average above 70, or graduates of Computer Science.

Contact details: Udi Shuchami ushuchami@ptc.com
Job Description: Working in a leading IIOT product, you will work on creating and updating JavaScript components. The components are written in Web Component technology.

Requirements: students with average above 70. 3rd year or graduates of Computer Science. Knowledge in Web Components technology is an advantage.

Contact details: Udi Shuchami usuchami@ptc.com