**INTERNSHIP:**

**Develop Module identification by scanning Color Code**

Background information
Within ASML, the Electrical Development Department (EDEV) is responsible for the development of electronic modules as well as electronic cabinets.
A complex machine typically has multiple instances of the same electronic modules. The application can differ at multiple locations and require typical different firmware code.
Many possibilities exist to uniquely identify a module by reading a code that physically is not part of the module, e.g. by reading a RFID tag. An optical method is under study and makes use of a sticker having different colored pads.

Your assignment
You’ll do research on the possible solution described above by:

- Designing and building a (low complexity) printed circuit board that applies 4 color sensors and the light source (LED?) and control it from an existing module using Python.
- Investigating a color code that allows identifying broken sensors, LED and stickers that are wrongly mounted.
- Investigating the robustness of the solution for aging of the sensor, LED, color pads as well as the robustness for alignment errors in the sticker.
- Simulate implementation.

Your profile
You’re a (HBO) bachelor or master student in Electrical Engineering with strong affinity in programming. Basic knowledge of Python and binary coding is required.
Furthermore, you can be described as an independent worker. You are interested in both hardware and software.

You’re able to start between now and September 2017 for 3 to 6 months. This internship is suitable for apprentice interns only.

Please keep in mind that we can only consider students (who are enrolled at a school during the whole internship period) for our internships and graduation assignments.

**What ASML offers**
Your internship will be in one of the leading Dutch corporations, gaining valuable experience in a highly dynamic environment. You will receive a monthly internship allowance of 500 euro (maximum), plus a possible housing or travel allowance. In addition, you’ll get expert, practical guidance and the chance to work in and experience a dynamic, innovative team environment.

**ASML: Be part of progress**
We make machines that make chips – the hearts of the devices that keep us informed, entertained and safe; that improve our quality of life and help to tackle the world’s toughest problems.

We build some of the most amazing machines that you will ever see, and the software to run them. Never satisfied, we measure our performance in units that begin with pico or nano.

We believe we can always do better. We believe the winning idea can from anyone. We love what they do – not because it’s easy, but because it’s hard.

**Students: Getting ready for real-world R&D**
Pushing technology further is teamwork, and our R&D team is more than 5,500 people strong, with major sites on three continents. Dozens of diverse, interdisciplinary teams work in parallel to meet a challenging development schedule.

In such an environment, your colleagues may be sitting next door, or they could be thousands of kilometers away in a different country, or even working for a different company.

An internship at ASML is your opportunity to get to know this world of industrial-strength R&D and get a feel for that excites you most. Will you design a part of the machine, or make sure it gets built to the tightest possible specifications? Will you write software that drives the system to its best performance, or work side-by-side with the engineers of our customers in a fab, optimizing a system to the requirements of the customer?

How will you be part of progress?

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