INTERNSHIP PROPOSAL

Stage : Design of mixed-signal Circuits in an Open-Source Environment

Durée du stage : 6 months

Niveau d'études souhaité : Last year of Master degree

Entreprise Pyxalis : Specialized in the design of integrated circuits for image capture

Lieu : Zone d'activité Centr'Alp - Moirans (10 minutes from Grenoble by train/car)

OUR COMPANY

Would you like to get involved in a human-sized, dynamic, and growing company?
Our strategic direction is aligned with the values we uphold — centered on People and the Planet: **Originality**, **Well-being**, **Authenticity**, and **Responsibility**.

Founded in 2010, Pyxalis is based in the heart of the Grenoble region, a hub of excellence and innovation. As an independent company of about 50 people, we specialize in the development and sale of innovative image sensors and associated solutions.
Close to our customers, we focus our efforts on three main market pillars: **health**, **safety**, and the **environment**. Our offering includes both custom-designed products and off-the-shelf solutions.

Don't wait — join us!

DESCRIPTION DU STAGE

Objective :

The recent initiative by foundries to offer free integrated circuit fabrication has been accompanied by the development of open-source design tools. This internship aims to use these open-source design flows to design an mixed-signal circuit based on the internal company know-how and student knowwledge.

INTERNSHIP PROPOSAL

Internship description :

After installing the necessary softwares (with support from the IT team), you will familiarize yourself with these design tools by simulating and implementing mixed-signal circuits.

Key tasks include:

- Installing open-source softwares and associated process technology.
- Familiarizing yourself with the tools and design environment.
- Editing and simulating mixed-signal circuits based on existing schematics.
- Carrying out digital synthesis, place-and-route, analog layout and DRC/LVS verification.
- Assessing the maturity level of the software.
- Documenting the work, including circuit performance and references for implementing the design tools.

REQUIRED SKILLS

- Analog and digital circuit design.
- Electronic simulation in an open-source design environment.
- Familiarity with Git/Gitlab, Linux environment management, and Python programming.
- English proficiency (primarily for reading technical documentation).
- Rigor, pragmatism, patience, and autonomy are essential to achieve the internship's goals.

INTERNSHIP BENEFITS

- The opportunity to work in an open-source environment with continuously evolving tools.
- Practical application of your knowledge in analog circuit design.
- Guidance from experienced engineers during the circuit design phase, with opportunities to communicate directly with open-source tool support teams.
- A dynamic environment enabling you to meet objectives set collaboratively at the start of the internship.
- Regular project follow-up, adhering to the company's quality standards.
- Paid internship

INTERNSHIP PROPOSAL

SUPERVISION

- You will be supervised by Matthieu Dubois, the technical manager of the analog design team
- You will be supported by your mentor throughout the entire internship.
- Dedicated time will be allocated for writing your internship report, with the company's tools available for your use.
- 35 hours per week.
- matthieu.dubois@pyxalis.com