

Software - Hydrogen Optimization Internship

Job Category Engineering & Information Technology

Location Paris or Lyon

Internship Programs at Persee

We are dedicated to providing an experience that allows for the intern to get a fulfilling work experience at Persee by giving them projects that are critical to the team's success and which they can contribute.

Instead of going on coffee runs and making copies, you'll be seated at the table making decisions that will influence not only your team, but the overall achievement of Persee's mission.

Persee is seeking highly motivated engineering students who want to apply their broad engineering and mathematical skills towards energy and sustainability. Your projects may include new control strategies, the extension of our products to new applications and markets.

What to Expect

Although the exact scope of work is likely to change when you effectively start your internship, it will deal with Tactical Optimisation (down to real time control) of power to gas (P2G) systems. These P2G systems are likely "big", a couple of hundreds of MW connected to the power grid with dynamic prices and a governance with favors flexibility and pays for it.

The optimisation will balance off energy or energy price minimisation with maintainability maximisation. Several techniques, exact or not, could be considered. Pragmatism will be the best asset with so many moving parts.

Requirements

Currently working towards an advanced degree (Masters) in a relevant program such as Software Engineering, Computer Engineering, Electrical Engineering or Computer Science

Personal or academic projects that demonstrate your ability to address complex problems with simple solutions

Strong proficiency in Python

Comfort in a Linux environment

A strong predilection for good software and the processes that make it

Hands-on experience debugging software within a network of systems

Nice to have: Julia, experience modeling physical systems and/or markets, experience with IoT platforms

Energy - Modeling & Architecture Engineer Internship

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Responsibilities

Uses physics-based modeling to develop and maintain electro-thermal system models for Powerwall, Megapack and Supercharger products to drive product specifications and system optimization analyses

Develop fully automated modeling infrastructure for conducting system specification, electro-thermal, techno-economical, and mission profile analyses

Provides support in strategy, design, simulation and validation by closely working with the rest of the team

Responsible to balance efficiency, power, and generation capabilities against costs for our current products and future product roadmap through simulation modeling

Requirements

Currently pursuing a BS or MS in electrical or mechanical engineering

Fundamentals in power electronic and hydrogen technology

Solid engineering fundamentals - electrical, thermal, mechanical

Great hands-on building and problem solving skills

Preferred skills

Fluency in Python (Simply-NumPy,...)

Experience with energy storage design to optimize for efficiency, volume, cost, thermal, and controls goals through simulation modeling

Ability to generate and interpret simulation results and integrate recommendations into product designs

Experience with data analysis using Python/Spark is a plus