6 TO 13 MONTH PLACEMENTS FOR STUDENTS IN COMPUTER SCIENCE (CS), COMPUTER ENGINEERING (CE) or ELECTRICAL ENGINEERING (EE)

These placements start between July 2018 and January 2019, and finish August 2019

Caterva is a young high-tech company in the field of distributed energy storage, and is pioneering a new model of grid stabilization. Recently acquired by Alelion of Sweden (specialists in batteries and renewable energy), Caterva is well-funded for future growth. The company is managed by experts in the field who have previous success in renewable energy start-ups.

Their headquarters are in Pullach, a 15 minute commute from central Munich. Start-up companies are dynamic and exciting, so Caterva are looking for smart people, who relish a challenge and have a can-do attitude. If you have ambitions to run your own business in the future, this may be THE placement for you!

More information on Caterva can be found at www.caterva.de

UK Students: please note that the UK departure from the EU (“Brexit”) has not changed the rules, and they will not change until 2019 at the earliest. So, please grasp these opportunities and apply!

INTERNSHIPS

Successful candidates will work in the development lab of Caterva or in the software team.

Caterva has a fast cycle develop, test and deployment process, that will give the successful candidates unbeatable professional experience for their future. Also, interns will have freedom on deciding how their development is implemented, giving meaningful responsibility throughout the cycle. Most importantly, the interns will be able to see how their work performs and adds value to the company.

There will be also regular involvement with marketing, sales, and manufacturing - offering a good opportunity to gain experience in all areas of the business. These year-long placements will allow the candidates to become fully familiar with Caterva technology and have a real chance to contribute to the development of the organization and the technologies used. As the company grows, it is likely that some of the Interns will return as employees after their graduation.

View our YouTube interviews with previous Students here: https://goo.gl/HzP1kJ

Placements available

Control Centre Software
Develop High Availability Software (HAS) for Caterva’s distributed storage system. This system will continuously grow during the placement. The Control Centre Software must operate on a 24/7 basis, therefore the solution has to be redundant and available even if one of the data-centres fails. Your duties will include:

• Clarify interface details for the new components
• Add new C++ classes to the existing Control Centre software basis
• Add Javascript based servers to the Control Centre
• Implement Linux bash scripts
• Improve HAS functionality
• Establish secure and robust connections using standard components (IPsec and openVPN)

Power
To improve the performance and efficiency of energy storage systems, Caterva is developing novel concepts for

Electronics
combining **power converters** with **batteries** at home. The goal is always to improve the efficiency of the system. Your duties will include:

- Assemble and conduct tests on energy storage system prototypes
- Evaluate electronic components (converters, filters, resistors)
- Analyse device faults and propose countermeasures for serial production
- Improve Caterva’s electronics laboratory setup

**Data Acquisition, Analysis & Visualisation**

Caterva is developing an automatic **trading system** for the European electricity markets. One of your tasks will be to take **market data** and look for trends using **statistical methods**. Furthermore you will build and maintain a tool that helps us **visualise** the constant evolution of the markets that Caterva participates in. Your duties will include:

- Design the data acquisition services
- Develop and maintain a data visualisation and analysis system
- Model the archive databases
- Implement and test the data handling subsystem
- Apply statistical analysis to find market trends

**Web and Mobile**

Due to the **highly technical** nature of the **data** gathered in the system, Caterva is always facing the challenge of **presenting** this information to the customers. This placement will allow you to tackle this challenge by working with both the **front-end** and **back-end** of our App (iOS & Android). You will also be involved in developing **business processes** for our CRM System to better support the growing needs of Caterva. Your duties will include:

- Evaluate alternatives for data presentation on mobile devices
- Design and implement effective business processes in CRM System
- Implement the interface to the server-side data
- Develop new tools as necessities arise

**Skills required**

**Technical Knowledge**
- Understanding of energy technologies such as batteries, power converters, and the issues surrounding stabilization of the mains power grid
- Experience of the control software used for the storage systems and control of the network
- Understanding of secure communications, especially in the energy context
- Knowledge and hands-on experience of product development.

*Full mentoring will be provided at Caterva.*

**Work Skills**

Working efficiently and effectively, being responsive, understanding organizations and teamwork. A complete working experience in a leading engineering startup that enables you to grow as a professional engineer.

**Communication Skills**

The communications skills needed to work in a dynamic company: face-to-face, telephone, web meeting, and e-mail. Highly proficient use of English, particularly for technical subjects, enabling effective and clear communication.

**Marketing**

Understanding the growing market for Caterva technologies, and gaining a genuine appreciation of the market trends from an insider’s point of view.

**Relationships**

Working in a multi-cultural environment. Regular interaction with management.

**Recruitment**

A unique element in these placements is that the Interns will be involved in the recruitment process for their successors and running the initial selection process. Where possible, they will then give training to their successors during a handover period (hence the capacity for a 12 month placement plus one month handover).
Other skills we value, but which are not essential:
- Additional language skills (apart from English). German is useful socially
- Previous work experience
- An appreciation of different cultures

Specific skills desirable (by position)

Power Electronics
- Both practical and theoretical problem-solving abilities
- Passion for and understanding of power electronics
- Confidence with electric measurement instruments (oscilloscope, power meter)
- Experience with IGBT-based power converters (10-30kW range) and transformers is useful
- Experience with batteries and BMS useful

Control Centre Software
- Confidence with Linux platforms
- Experience with C++ programming
- Experience with Java programming
- Application level knowledge of openVPN and SSH
- Experience with bash shell scripting
- Knowledge of JavaScript server programming (nodejs) is useful

Data Acquisition, Analysis & Visualisation
- Good knowledge of object oriented programming, preferably Java
- Confident working with databases
- Understanding of basic web technologies and communication protocols
- Experience with Linux shell environments
- Familiarity with data mining and big data technologies is useful
- Knowledge of statistics and analytic methods is useful

Web and Mobile
- Experience of web design or mobile development
- Experience with HTML5, CSS and JavaScript
- Good knowledge of Java is very useful
- Experience managing productive environments (web servers)
- Confident working with databases

Working Conditions & Remuneration
- Location – Munich, Germany. An international city friendly to students from all over Europe! Excellent public transport, buzzing nightlife, outstanding sports activities – in short “a cool destination”
- Collegiate company environment: everyone working together on common goals
- State-of-the-art development Labs with excellent tools and equipment
- Training: excellent on-the-job training
- Salary: €1600 to €1,750 Euros pre-tax per month, depending on experience
- Salary paid monthly - so you must be able to support yourself during your first month.
- Paid holiday allowance of 25 days per year plus the German/Bavarian public holidays.
- €450 relocation allowance payable in your final month at Caterva to assist with relocation costs back to your University.

Individual Requirements

Applicants MUST meet the following criteria
- Be available for a placement of at least 6 months
• Able to retain their student status throughout the placement because the placement is a required or optional part of their course (not a “Student in suspense”). Your University is required to sign an Internship Contract with Caterva to verify that you are still their Student.
• Be fluent in English, written and spoken
• The drive and motivation to accept new challenges

Nationality
• Most of these positions will be filled by citizens of the European Union or Switzerland
• Non-EU applications from exceptional candidates will also be considered

General skills you should have
• The ability to learn quickly
• A keen sense of responsibility
• The maturity to work with minimal supervision
• The ability to live independently away from home

Applications

Applications will be assessed as they are received, so applying early increases your chances.
- The latest submission date is 30th June 2018

APPLICATIONS:
1. Send your CV and a cover letter in English by email to intern@caterva.de - The cover letter should detail why you are applying for this job, and how you satisfy the criteria required. It should not be more than one side of A4. Please ensure that you specify your nationality in either the cover letter or the CV.
2. CVs will be assessed shortly after they have been received and selected candidates will be offered a telephone interview.
3. The first interview will look at your technical skills
4. If your skills match Cateva’s needs, a second interview will be offered to review your career plan and your motivation for applying. ALL the interviewers in these first two stages have previous experience of completing successful Internships in Munich.
5. Prior to attending the second interview, candidates will be asked to provide a copy of their passport or ID card and confirmation in writing by the University of the Student Status. Candidates will be taken further in the process only once this information has been received.
6. Some of the successful candidates from this process may also be interviewed by Robert Owen who is supervising this process.
7. Candidates that pass these stages will then be shortlisted for interviews by Caterva which could involve current students and technical supervisors.
8. The process is running late this year, so we will move as quickly as possible through these steps. Suitable candidates will be offered positions quickly to ensure that no candidates are lost through waiting. We expect the process to be fully completed and all offers made by the end of June.
9. Successful candidates will start at Caterva in July and beyond, depending on the duration of the placement. The start date will be mutually agreed to suit both candidate and Caterva.

For more information:
Essaimage Associates (www.essaimage.com) are running this recruitment process for Caterva for the 5th consecutive year. They have 23 years’ experience running 13 month placements across Texas Instruments Europe, EnOcean GmbH, and Imagination Technologies.
You can address your questions to Robert Owen, Director: e-mail: rcwo@compuserve.com