One of the main focuses of this third semester project is analog electronics. Electronics bring the software and the mechanical part together. The software needs feedback from the analog world. It needs to know how heavy the load is and whether there is an obstacle in front. Furthermore, all the smart digital electronics need to be powered. But when powering everything from a battery the current state of the battery has to be evaluated. All these tasks are necessary to guarantee safe operations.

The tasks include the following:

- Project requirements
- Interfacing the analog load cells
  - Loadcell PCB Design
- Power Supply and monitoring
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  - VeroBoard Design
- Motor Drivers
  - Motor Driver PCB Design

0.1 Fullfilling the project requirements

The project tasks given this semester include the usage of at least two analog sensors and at least one analog filter. In this project there are two arrays of IR-sensors - each counting 8 individual sensors with analog output - and an self-designed circuit fusing the output of 4 analog loadcells and amplifying it up.