Professur für Regenerative Energiesysteme
Campus Straubing für Biotechnologie und Nachhaltigkeit
Technische Universität München

Research Internship:

Data Processing & Analysis

Our research group is currently working with diverse datasets originating from biogas plant operations, PIV experiments, and publicly available online sources. These datasets, however, are "dirty" and require significant cleaning, processing, and analysis before meaningful insights can be derived. We are looking for a motivated intern proficient in data processing using MATLAB or Python to help transform these raw datasets into valuable research outputs.

Internship Description:

1. **Data Cleaning:** Identify and correct errors, missing values, and inconsistencies in datasets.
2. **Data Preprocessing:** Standardize and structure the data for further analysis.
3. **Data Analysis:** Develop scripts and tools in MATLAB or Python to process and analyze the cleaned data.
4. **Documentation:** Maintain clear documentation of data processing steps and code.
5. **Collaboration:** Work alongside our research team to integrate the processed data into ongoing research projects.
6. **Exploratory Analysis:** Investigate patterns, trends, and anomalies within the datasets to support future studies.

Skills and Qualifications:

- Proficiency in MATLAB or Python, focusing on data analysis and manipulation.
- Familiarity with techniques for data cleaning, preprocessing, and exploratory analysis.
- Ability to document processes and communicate findings clearly.

Start Date: Flexible

Contact:

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Professorship of Regenerative Energy Systems

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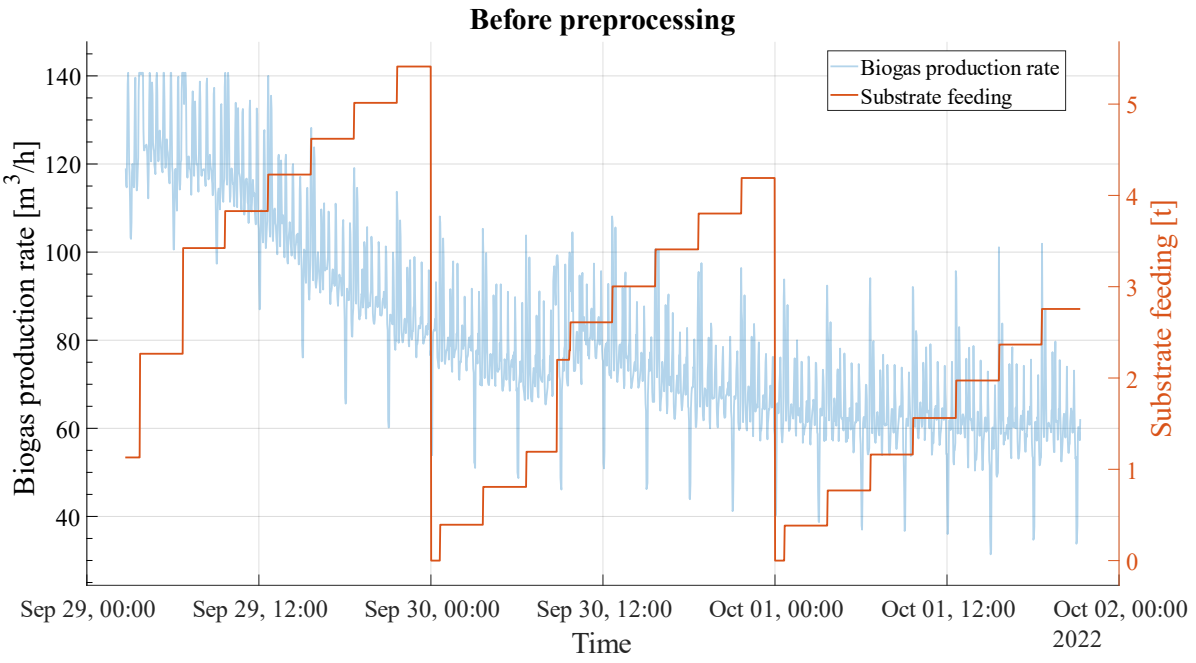
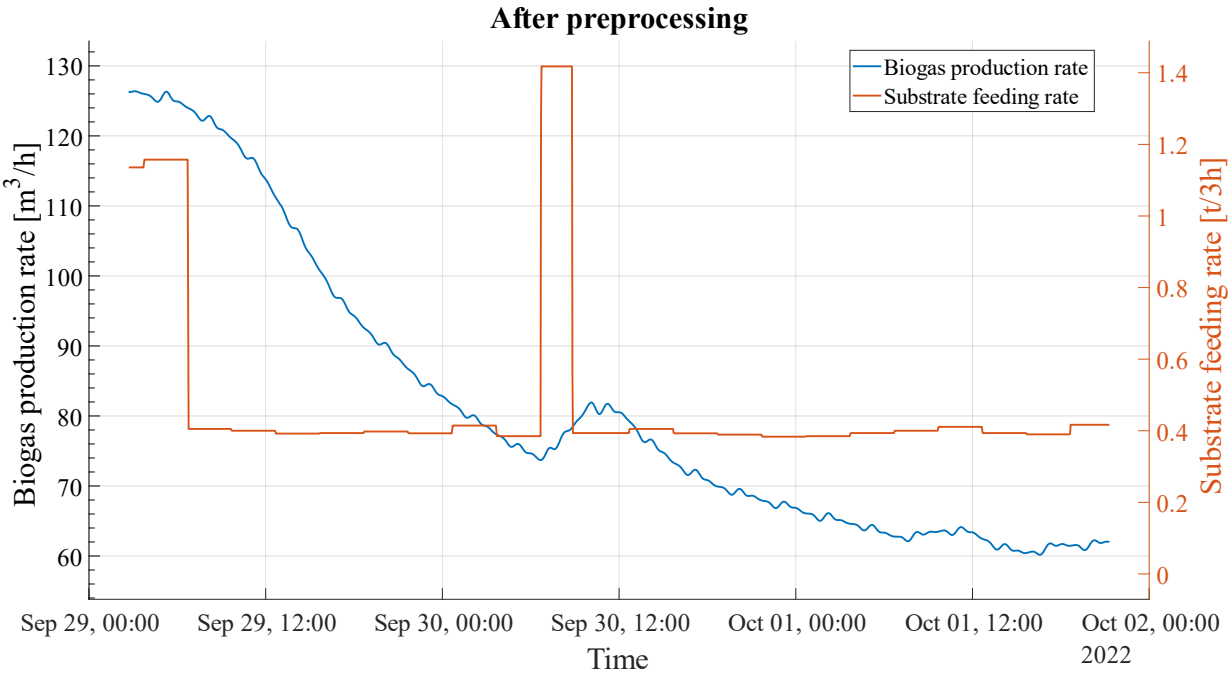

Before preprocessing
Biogas production rate
Substrate feeding
Biogas production rate [m3/h]
Substrate feeding [t]
140
120
100
80
60
40
5
4
3
2
1
0
Sep 29, 00:00
Sep 29, 12:00
Sep 30, 00:00
Sep 30, 12:00
Oct 01, 00:00
Oct 01, 12:00
Oct 02, 00:00
2022
Time


After preprocessing
Biogas production rate
Substrate feeding rate
Biogas production rate [m3/h]
Substrate feeding rate [t/3h]
130
120
110
100
90
80
70
60
1.4
1.2
1
0.8
0.6
0.4
0.2
0
Sep 29, 00:00
Sep 29, 12:00
Sep 30, 00:00
Sep 30, 12:00
Oct 01, 00:00
Oct 01, 12:00
Oct 02, 00:00
2022
Time