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| **Title** (Application of Machine learning for Solar pond Automation) | **Project Title (Application of Machine learning for Solar Pond Automation)** | |
| **Sl. No** | **USN** | **Name** |
|  | **1MS18ME088** | **Manish Gautam** |
|  | **1MS18ME093** | **Mohammed Sahil** |
|  | **1MS18ME157** | **Sanskar Sharma** |
|  |  |  |
| **Mentor Name** | External Mentor (if any)  Internal Mentor  Dr. Jaya Christiyan K.G. | |
| **Abstract (Application of Machine learning for Solar Pond Automation)** | | |
| Content of the Abstract: In this project, a machine learning (Linear Regression) model was used to predict the performance parameters of a laboratory model salinity gradient solar pond (SGSP), which is used for supplying hot water. Experiments were conducted on various parameters. The performance parameters of the solar pond such as outlet water temperature, the efficiency of the solar pond, and effectiveness of in-pond heat exchanger were determined experimentally for two different flow rates of Reynolds numbers 1,746 and 8,729. The experimental data obtained from the observations were utilized for training, validating, and testing the proposed linear regression model. The parameters like incident solar radiation, inlet water temperature, lower convective zone (LCZ) temperature, and flow rate are responsible for the outlet water temperature of the solar pond. Based on the experimental readings as inputs a computational program was developed in Python. This program was trained using a machine-learning algorithm to predict the outlet water temperature of the in-pond heat exchanger. The results predicted using the model are in good agreement with the experimental results. | | |
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