**Laporan 1 - Tabel 1. Research contribution**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Reference | Length of dataset | Causes of hotspot | | Improved Neural Network | Algorithms | | Parameter Tunning |
| Climate factors | ENSO factors | Neural Network | Hyperparameter |
| [1] | 2001 - 2014 | - N/A | - N/A | - N/A | - SARIMA - ERNN | - N/A | - N/A |
| [2] | 2016 - 2018 | - N/A | - N/A | - N/A | - SARIMA | - N/A | - N/A |
| [3] | 2016 - 2019 | - N/A | - N/A | - N/A | - ARIMA | - N/A | - N/A |
| [4] | 2000 - 2003 | - Air temperature - Air humidity - Wind speed - Rainfall | - N/A | - N/A | - ELM - SVR - RF - LR | - N/A | - N/A |
| [5] | 1990 - 2018 | - average air temperature - maximum air temperature - minimum air temperature - rainfall - wind direction - wind speed - snow height | - N/A | - N/A | - BPNN - RNN - LSTM-RNN | - N/A | - N/A |
| [6] | 2002 - 2019 | - N/A | - N/A | - N/A | - LSTM-RNN | - N/A | - N/A |
| [7] | 2018 - 2019 | - Solar Radiation - Air Temperature - Air humidity - Rainfall - Wind speed - Elevation | - N/A | - N/A | - LSTM-RNN | - N/A | - N/A |
| [8] | 1990 - 2018 | - N/A | - N/A | - N/A | - BPNN - RNN - LSTM-RNN | - N/A | - N/A |
| [9] | 2019 - 2021 | - Air Temperature - Air humidity | - N/A | - N/A | - SVM | - N/A | - N/A |
| [10] | 2000 - 2003 | - Air temperature - Air humidity - Wind speed - Rainfall | - N/A | - N/A | - XGBoost - RF - SVM - DT | - N/A | - N/A |
| [11] | 2000 - 2003 | - Air temperature - Air humidity - Wind speed - Rainfall | - N/A | - N/A | - ARIMA - SARIMA - LSTM-RNN - GRU-RNN | - N/A | - N/A |
| [12] | 2019 - 2022 | - N/A | - N/A | - N/A | - Prophet FB | - N/A | - N/A |
| Our research | 2000 - 2023 | Solar Radiation  Rainfall  Air Temperature  Air Humidity  Wind Speed | - SST Nina 3.4 - Index SOI | - Stacked  - Bidirectional | - LSTM-RNN  - GRU-RNN | - GridSearch | - Activation function - Optimizers - Dropout - Batch size - Epoch |

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