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| **Algorithm 1**: Spatio-temporal feature selection algorithm (*STFSA*), our proposed algorithm to determine the optimal input data size. See Section X for details. | |
| **Input:** *d*: Stepsize; *α*: Insensitive coefficient; Spatio-temporal prediction algorithm *f* (*S, T*); *E*( *f* ): The validation set error of the model *f* ; Stop search control parameter *P*;  **Output:** The optimized model *f* (*Sopt, Topt*) | |
|  | *Sopt  d* (Initialize optimal spatial detector number)  *Topt  d* (initialize optimal time lag number)  *S Sopt + d* (Initialize spatial detector number)  *T* *Topt + d* (Initialize time lag number)  **while** *S* – *Sopt* < *P* **do**  **if** *E*( *f* (*Sopt, Topt*)) – *E*( *f* (*S, Topt*)) > *α* **then**  *Sopt* *S* (Update optimal spatial detector number)  **end if**  *S S* + *d* (Update spatial detector number)  **end while**  **while** *T* – *Topt* < *P* **do**  **if** *E*( *f* (*Sopt, Topt*)) – *E*( *f* (*Sopt, T*))> *α* **then**  *Topt T* (Update optimal time lag number)  **end if**  *T T* + *d* (Update time lag number)  **end while**  **return** *f* (*Sopt, Topt*) (Optimized model) |