Editor and Reviewer Comments:    
  
Reviewer #1: Title is generic. Sharpen scope and setting.  
  
Abstract: reduce promotion, report uncertainty. Add MAE or 95% PI beside R² and RMSE for same-day and next-day results .  
  
Sampling times: "11:30 PM" looks wrong; likely 11:30 AM. Fix all times and ensure consistency across text and figures .  
  
Study area: unit missing. "covering 300 …" add hectares and verify pipeline description for clarity .  
  
Data completeness: "no missing values" requires evidence. Describe QC, sensor downtime handling, and any imputation strategy .  
  
Splitting and validation: random 60-20-20 and standard k-fold can leak across time and ponds. Use pond-grouped and time-aware splits; keep external farms strictly held out .

Thuận: Nếu yêu cầu thì cần chạy lại model. Yêu cầu này sẽ dẫn đến việc sẽ không thể lặp số lượng lớn (200 lần) như mình đã làm. Có thể thay bằng “Rolling CV” như đề xuất.  
  
Feature importance: SVR uses RBF; "weights" are not model parameters. Replace with permutation importance and SHAP in Methods 2.4.2-2.4.3; keep RFR impurity importance only as ancillary . Add SHAP reference in 2.4.2: "We interpret models using SHAP DOI: 10.48550/arXiv.1705.07874."  
  
Outlier policy: text claims z≤3 improves results, but Table 1 shows mixed effects and even higher RMSE for ANN. Align narrative with table and justify threshold selection statistically and ecologically .  
  
Model detail: ANN "three hidden layers with random neurons" is vague. Report exact architecture, activations, regularization, epochs, early stopping, and seeds .

Thuận:

|  |  |  |
| --- | --- | --- |
| ANN | loss | MAE |
| activation function | Rectified linear unit (ReLU) |
| optimizer | nadam |
| learning rate | 0.001 |
| epochs | 300 |
| architecture | Input -> (Dense - Dropout)x layer -> Output |
| early stoping | monitor "val\_loss" |
| Regularization | Dropout(0.1) |

Hyperparameter tuning: GridSearchCV with 10-fold may mix time or pond identities. Use nested, time-blocked CV or rolling origin. State how scalers were fit on train only to avoid leakage .  
Thuận: tương tự như trên  
  
Next-day task: clearly state lag features used and whether the previous-day alkalinity is included; explain operational availability at prediction time .

Thuận:

Tạo lag feature: Group theo pond (ao) -> sort theo thời gian, với mỗi record, thêm vào lag feature của ngày hôm trước.

Về previous-day alkalinity: mình đã chia làm 2 trường hợp: dùng số thực (đã đo) và số dự đoán (từ model dự đoán)  
  
External validation: specify farm counts, periods, and any domain shift. Quantify drop at extremes with calibration plots, not only scatter; discuss remedial feature additions .  
  
add MAE and bias for practical interpretability; include prediction interval coverage to support decision thresholds for management actions .  
  
ensure alkalinity units are mg CaCO₃ per L everywhere; fix species naming consistency (Litopenaeus vannamei). Replace "lime" with "alkalinity" in figure caption .  
  
unify decimal separators and significant figures. Example: Table 4 shows "12,414"; use "12.414" .  
  
Typos and phrasing: fix "water lever," "zcore," "hectares source seawater," "Evaluation the R-square," etc. A careful language pass is needed .  
  
measurements use benchtop spectrophotometer for alkalinity; temper claims or outline sensor pathway for real deployment .  
  
You can enhance the credibility using the following studies. Methods 2.4.2 paragraph on model interpretation: Abekoon et al., 2025 for agriculture ML with SHAP and LIME DOI: 10.1016/j.atech.2025.100879 to justify explainability in agri-monitoring .Discussion paragraph on water quality plus XAI: Makumbura et al., 2024 for SHAP in water quality modeling DOI: 10.1016/j.rineng.2024.102831 to connect alkalinity prediction with interpretable WQ pipelines .  
  
Figures: ensure axes have units, include 1:1 line with RMSE bands, and place farm identifiers or seasons via color or facet for Figure 6 to show domain generalization .  
  
Practical guidance box: add an actionable table mapping predicted alkalinity ranges to farm actions and costs, sourced from your SOPs or literature, to increase practitioner value.  
  
Conclusion: quantify effect size in operations. For example, the expected reduction in manual titrations or fewer lime additions per crop if using the RFR predictor, and restate limitations at extremes with a plan to improve .  
  
  
  
  
Reviewer #2: Its a good work can be followed by a major revision  
  
Why the figure 6 shows so much off predictions ?  
Kindly put the training and testing accuracies in a table  
Why several text are highlighted ?  
Results and discussion needs to be elaborated considering latest studies  
May be the authors can do a comparison with similar studies  
You may provide recent work that used classical ML like RF, SVM, ANN to strengthen your model selection  
https://www.sciencedirect.com/science/article/pii/S0167610522001313  
   
 

     
More information and support   
  
FAQ: How do I revise my submission in Editorial Manager?  
  
https://service.elsevier.com/app/answers/detail/a\_id/28463/supporthub/publishing/  
FAQ: How can I reset a forgotten password?  
https://service.elsevier.com/app/answers/detail/a\_id/28452/supporthub/publishing/  
For further assistance, please visit our customer service site: https://service.elsevier.com/app/home/supporthub/publishing/  
Here you can search for solutions on a range of topics, find answers to frequently asked questions, and learn more about Editorial Manager via interactive tutorials. You can also talk 24/7 to our customer support team by phone and 24/7 by live chat and email  
  
  
  
At Elsevier, we want to help all our authors to stay safe when publishing. Please be aware of fraudulent messages requesting money in return for the publication of your paper. If you are publishing open access with Elsevier, bear in mind that we will never request payment before the paper has been accepted. We have prepared some guidelines (https://www.elsevier.com/connect/authors-update/seven-top-tips-on-stopping-apc-scams ) that you may find helpful, including a short video on Identifying fake acceptance letters (https://www.youtube.com/watch?v=o5l8thD9XtE ). Please remember that you can contact Elsevier s Researcher Support team (https://service.elsevier.com/app/home/supporthub/publishing/) at any time if you have questions about your manuscript, and you can log into Editorial Manager to check the status of your manuscript (https://service.elsevier.com/app/answers/detail/a\_id/29155/c/10530/supporthub/publishing/kw/status/).  
  
#AU\_ATECH#  
  
To ensure this email reaches the intended recipient, please do not delete the above code