

Response to Editor

Dear Editor,

Thank you for coordinating the review of the manuscript “NØMAD: Lightweight HPC Monitoring and Diagnostics with Machine Learning-Based Failure Prediction” submitted to JORS. I am pleased that all three reviewers recommended acceptance and appreciate their constructive feedback.

I have addressed the suggestions raised during the review process. NØMAD remains under active development, and since the initial submission I have added several new features that strengthen the software’s utility:

- **Data Readiness Estimator:** A new `nomad readiness` command that helps administrators determine when sufficient data has been collected for reliable ML predictions, including time-to-readiness forecasts based on current collection rates.
- **Infrastructure Monitoring:** The dashboard now includes dedicated views for departmental workstations and storage servers (ZFS pools, NFS metrics), enabling administrators to correlate job failures with infrastructure-wide issues.
- **Diagnostic Tools:** New `nomad diag` commands for targeted analysis of network performance, storage health, and node-level bottlenecks.
- **Improved Documentation:** Project website launched at <https://nomad-hpc.com> with expanded technical documentation.

The manuscript has been updated to reflect these additions while preserving the core contribution: a lightweight, zero-infrastructure monitoring solution with network-based failure prediction.

Regarding the specific suggestions from reviewers:

1. **Embedded patching code:** I have refactored the patching system to load code from separate source files, improving syntax highlighting and linting.
2. **Patching abstraction:** The patching logic has been abstracted into a dedicated class structure, reducing code duplication.
3. **Test coverage with Mock cluster:** I have implemented a comprehensive `MockCluster` class in `nomad/testing/` that simulates an HPC environment for unit testing collectors, the patching framework, and the `edu` module without requiring a real cluster.
4. **Light mode screenshots:** The dashboard now supports a light theme, and we will provide updated figures using the light mode for improved readability in print.
5. **License headers:** SPDX license identifiers have been added to all source files.
6. **Bug fix:** The `nomad edu explain` error in demo mode has been resolved.

I believe these improvements address the reviewers’ suggestions while maintaining the manuscript’s focus and contribution. Thank you for the opportunity to revise and strengthen this work.

Sincerely,

João Tonini