Based on the search results, I recommend developing a comprehensive proposal for a West Nile Virus (WNV) prediction project that leverages multiple advanced modeling techniques. Here are key insights to incorporate into the proposal:

**Project Overview: West Nile Virus Predictive Modeling**

**Key Modeling Approaches**

* Utilize machine learning techniques like Random Forest and Neural Networks
* Implement an explainable AI framework using XGBoost and SHAP for model interpretability
* Develop a spatially aware graph neural network model for geographic predictions

**Critical Predictive Variables**

* Historical WNV case counts
* Population density
* Climate anomalies (temperature, precipitation)
* Ecological and environmental factors

**Proposed Methodology**

1. Data Collection

* Obtain mosquito testing results
* Gather weather and climate data
* Collect historical WNV case information

1. Model Development

* Create multiple predictive models
* Compare model performance
* Use ensemble techniques
* Implement cross-validation

**Unique Project Differentiators**

* Focus on county/state-level predictions
* Develop an interpretable prediction system
* Create actionable insights for public health decision-makers

**Potential Impact**

* Support targeted mosquito control efforts
* Enable proactive public health interventions
* Provide early warning systems for WNV outbreaks

The proposal will be structured to demonstrate a comprehensive, data-driven approach to WNV prediction that builds upon existing research and innovative modeling techniques.  
  
