MICHIGAN STATE
UNIVERSITY

**GRADUATE STUDENT POSITION ANNOUNCEMENT**

**Position:** Graduate Research Assistant (MS/PhD) in Biosystems Engineering
**Research Focus:** Deep Learning for Pathogen Modeling
**Location:** East Lansing, MI
**Start date:** Spring 2026 (flexible)

**Position Summary**
The Food AI and Engineering Lab at Michigan State University conducts research on developing biologically contextualized AI models and applications to forecast microbial behavior in complex biological systems. We are seeking an MS or PhD student to work on predictive modeling of pathogen genomics and molecular data, with opportunities to integrate additional multimodal datasets generated from collaborating labs. The modeling will focus on pathogen dynamics in relation to microbiome and environmental context, combining statistical and deep learning approaches to design and evaluate advanced model architectures, including attention-based and other state-of-the-art methods. This position is primarily computational and involves building multimodal data workflows, prototyping and testing architecture-level deep learning models, and preparing first-author papers while supporting publications across multidisciplinary collaborations.

**Required Qualifications**
- BS in a quantitative or computational discipline
- Demonstrated experience implementing and modifying deep learning models (e.g., CNNs, RNNs, transformers)
- Experience with AI/ML libraries (e.g., PyTorch, TensorFlow, JAX, tinygrad)
- Proficient in Python and comfortable with Linux
- Strong interest in machine learning, statistics, and computational modeling

**Preferred Qualifications**
- Research experience with microbial, genomic, or other omics data
- Experience with high-performance or cloud computing (e.g., MSU ICER HPCC, Modal)
- Excellent communication and organizational skills
- Candidates with strong coding skills and demonstrated interest in deep learning research are encouraged to apply, even if their prior work is not in biology

Interested candidates should send (1) a 1-page cover letter summarizing research interests and relevant experience, (2) a CV, and (3) names and contact information for three references to Dr. Jiyoon Yi (yijiyoon@msu.edu).

**Department of Biosystems and Agricultural Engineering**

A.W. Farrall Hall
Michigan State University
524 S. Shaw Lane
Room 216
East Lansing, MI 48824

517-355-4720
canr.msu.edu/bae