

HARUKU AONO

Bilingual AI-ML Engineer | Robust AI Under Sparse Data & Uncertainty

937-219-0934

hahikuyaono0419@gmail.com

Lexington, KY

 <https://hal1903.github.io/>

EDUCATION

University of Kentucky

Bachelor's, CS and Mathematics

GPA: 3.7 2022-2025

- Teaching Assistantship at UKY for JPN language and Calculus II
- Leadership role at Japanese Culture in Kentucky Society

Relevant Courses:

❖ AI, ML, Deep Learning, Reinforcement Learning, Data Science and Theories

 Numerical Linear Algebra, Graphs and Combinatorics, Probability, Statistics, Number Theory

 Algorithms, Software / Web development, System, Network

ACHIEVEMENTS

- Microsoft Office Specialist, 2014
- Data Science and Business Analytics (GCI) Certification from University of Tokyo
- Developed a school website: <https://catronater.pythonanywhere.com>

PUBLICATION

Predicting Dynamics of Tensegrity Structures Using Physics-Informed Neural Networks *
IEEE NAECON 2025

Predicting the Time of Death Using Energy-based Probabilistic Model with Postmortem Human Circadian Genes *
Submission on March 2026

EXPERIENCE

- **Macro/Software Engineer Intern** FPI, KY Jun 2022 - Aug 2022
 - Automated Excel-based data workflows using VBA, reducing processing time by ~90% into a one-click system.
 - Lectured on VBA and computation at a cross-cultural environment.
- **Research Assistant** University of Kentucky Jun 2024 - May 2025
 - Designed and implemented an end-to-end machine learning pipeline; results presented at academic conferences.
- **Research Assistant** WPI, MA Jun 2025 - Aug 2025
 - Evaluated and interpreted six machine learning models: currently preparing publication manuscript.
- **Assistant Teacher** CKJS Apr 2024 - Present
 - Delivered lectures, graded coursework, and mentored students.

PROJECTS

- **Predictive Model Pipeline for Early Employee Attrition**
 - Conducted EDA: quantified and visualized the data trends.
 - Identified >90% of risky candidates only using pre-hire data.
 - Projected annual cost reduction of \$100K+ by market analysis.
- **Physics-Informed Neural Network for Tensegrity Dynamics ***
 - Developed a predictive model for ill-conditioned dynamic physical structures, achieving final ODE-based training loss $\leq 1e-4$.
- **LLM-Driven Agent for Pseudo-Minefield Navigation**
 - Designed an LLM-based navigation agent under partial information (e.g. minefield at night); achieved higher success rates than leading LLMs.
- **Energy-based Probabilistic Models for Human Time of Death (TOD) ***
 - Designed a predictive model for both expected TOD and data uncertainty from noisy, limited gene expression data, achieving ± 1 hour error.

SKILLS AND LANGUAGES

Technical Skills: AI, Machine Learning, Data Science, RL

Languages: Python, JavaScript (React), VBA, MATLAB, Prolog

Tools: PyTorch, NumPy, Pandas, Scikit-learn, Matplotlib

General Skills: Japanese, Microsoft Office, Statistics, Data Analysis