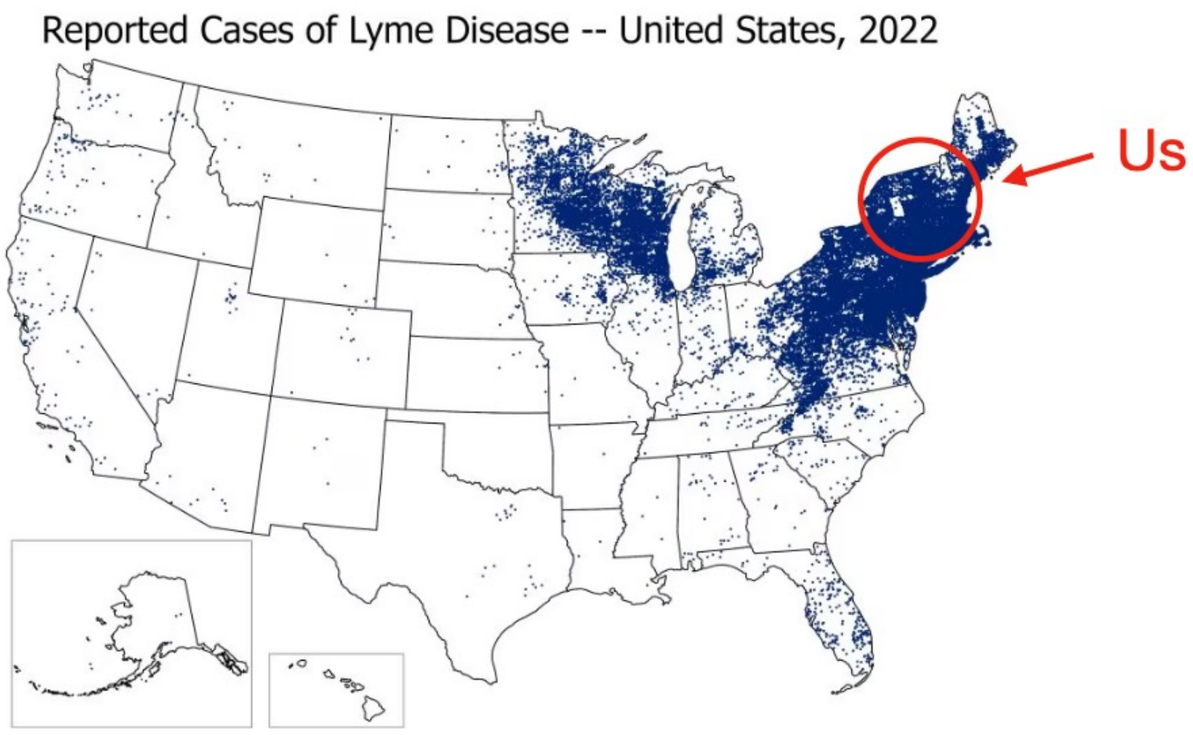
Lymely: The World's First AI-Powered Lyme Disease App

Motivation & Approach 🤔



Source: CDC [https://www.cdc.gov/lyme/data-research/facts-stats/lyme-disease-case-map.html]

476,000

estimated number of Lyme patients each year in the United States

Source: CDC [https://www.cdc.gov/lyme/data-research/facts-stats/lyme-disease-case-map.html]

Symptom and Activity Reporting with History 📝

Interactive Tick Territory Heat Map 🗺️

Lyme Education Resources 📚

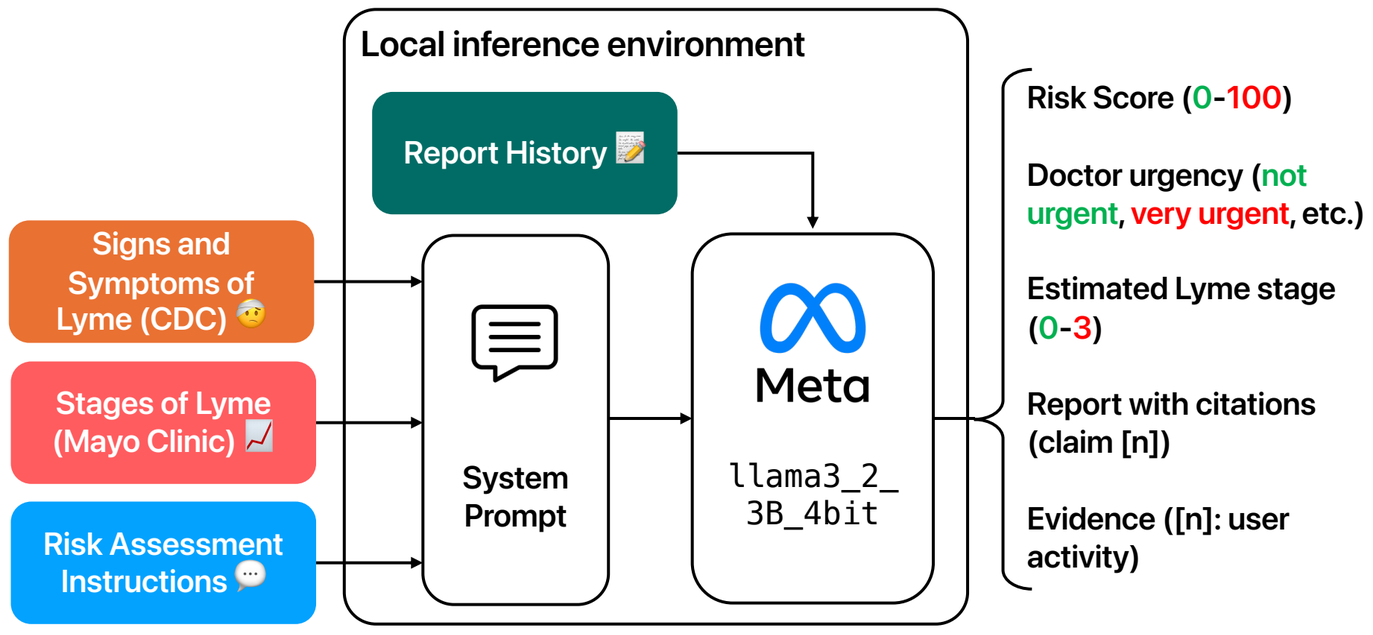
Rash Analysis Computer Vision Model* 🔍

New: Fast, free, on-device Lyme risk assessment with conditioned Llama-3.2-8B quantized to 4-bit* 👨‍💻

Activity Tracking & Risk Assessment* 👨‍💻

Each day, users answer:

- 🌳 Did you spend time outdoors in grassy or wooded areas today?
- 🦟 Did you use bug spray or tick repellent today?
- 🔍 Did you check for ticks on yourself or others today?
- 🪲 Did you find any ticks on yourself, others, or your pets today?
- 😉 Do you have any of the following symptoms today?
  - Fatigue, fever or chills, headache, muscle or joint pain, rash
- 💬 Additional information

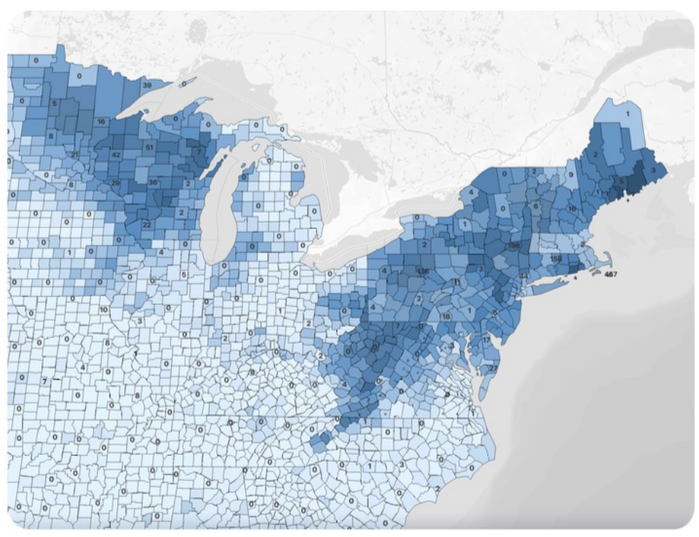


Interactive Tick Territory Heat Map 🗺️

Data sourced from Hopkins' Lyme Tracker 📊

Displays cases per 100,000 people for each US county 🇺🇸

Automatic Location Updates 📍

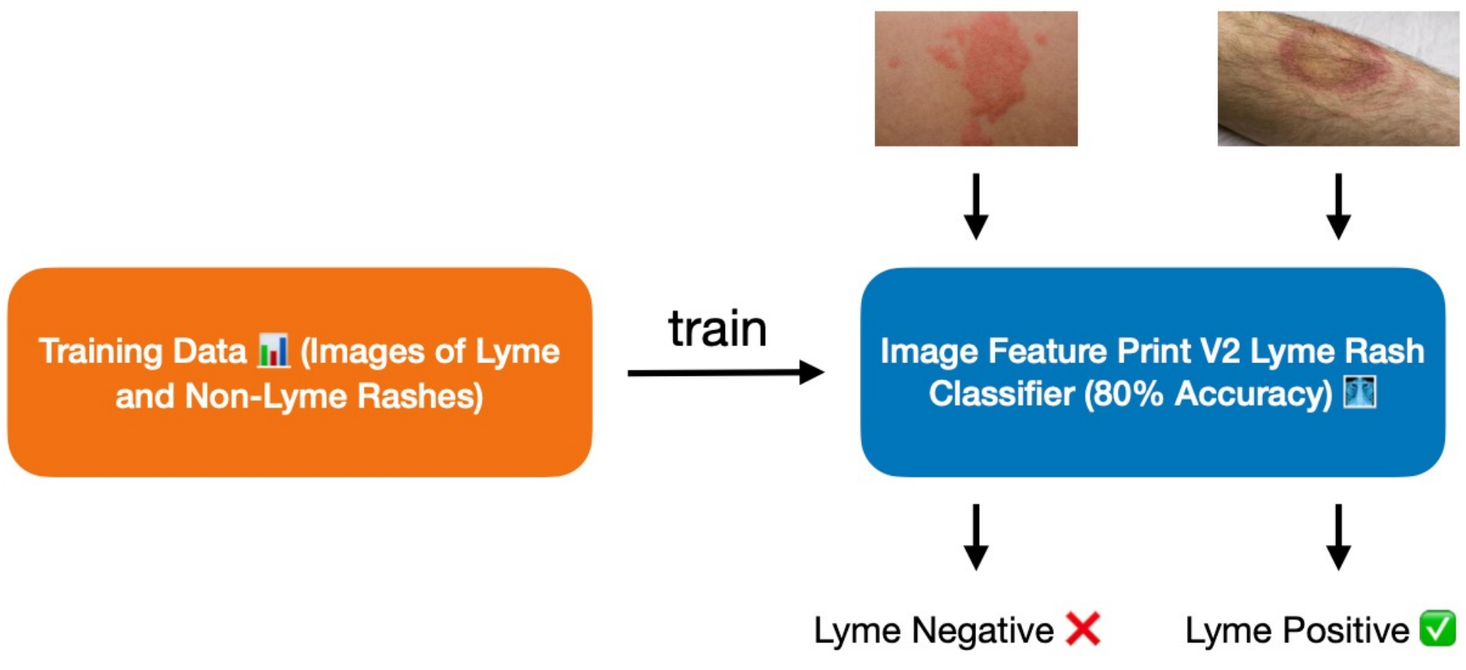


Tools Used & References 🛠️

Swift MLX LLaMA by Meta mapbox Tokenizers Create ML

Hopkins Lyme Tracker - The data used to create the tick map is from Hopkins' Lyme Tracker.
CDC - The early Lyme disease symptoms used to educate the Llama 3.2 model are from the CDC.
Mayo Clinic – Additional symptoms and stages of Lyme disease are retrieved from the Mayo Clinic.
Lyme Disease Erythema Migrans Rashes Dataset - The dataset used to train the rash classification model, courtesy of Edward Zhang at Dartmouth College.

Rash Analysis Computer Vision Model* 🔍



GitHub 👨‍💻

Disclaimer*

AI predictions may be inaccurate, and Lymely does not diagnose users. Users should always see a doctor about symptoms regardless of whether Lymely believes they may be due to Lyme.