

About

FortyGuard is a climate technology leader revolutionizing AI-driven temperature intelligence targeting urban heat. We offer tailored, fast, and affordable solutions, delivering precise, hyper-local maps and smart analytics. Our mission is to address urban heat challenges across many sectors. We unlock a world of temperature possibilities with freemiums and APIs.

Problem

Temperature data at scale, comes only from satellites — captured at roughly four-kilometer resolution, measured hundreds of meters above the ground, and updated every four hours. This data is atmospheric, not local, and it misses the microclimates where people actually live and work. In reality, urban heat can vary by 10°C within the same city block, yet most organizations still rely on coarse, outdated data for billion-dollar decisions in energy, logistics, construction, and insurance.

At FortyGuard, we bridge that precision gap. Our measurements are 300 times more accurate and 100 times more cost-efficient than traditional models, capturing temperature two meters above ground, every 10 meters squared, and updating every second. This level of granularity localizes temperature for commercial-grade applications, enabling enterprises to measure how heat moves, understand the thermal signature of cities, and model temperature impacts where they operate — whether optimizing pedestrian comfort, routing shipments, or planning new developments.

Solution

FortyGuard's Large Temperature Models (LTM) deliver the most advanced, near real-time and predictive heat intelligence available today. By ingesting over 52 billion GPS-based data points daily, supported by trillions of historical temperature observations, our LTM system enables unmatched temporal and spatial understanding of heat dynamics.

This means FortyGuard doesn't just measure temperature — it maps, predicts, and learns from it.

Our AI models can capture hyperlocal heat differences with commercial precision, visualize them instantly, and forecast their evolution into the future with unprecedented accuracy. This capability transforms temperature into an actionable infrastructure layer for enterprises — powering energy optimization, risk assessment, climate resilience, and mobility analytics with scientific, scalable insight.

The Temperature API provides temperatures on demand, offering customized solutions with unparalleled accessibility, speed, and accuracy. It aggregates data from numerous models and sources, including numerical and AI weather models, and delivers deterministic, extended, and ensemble temperature predictions. Covering the US with hourly, 60-meter resolution data, the API supports simultaneous parameter queries for single or multiple sites, routes, and areas, facilitating coordinated individual queries for efficient data retrieval.

Temperature Property provides instant, property-specific temperature intelligence by combining street-level heat data, material context, and solar exposure analysis to reveal how heat affects comfort, energy efficiency, and long-term value. Using advanced AI and 2-meter precision data, it delivers customized insights on cooling demand, ESG exposure, and thermal performance, helping real estate owners, developers, and investors understand, compare, and optimize assets for a hotter future.

Key Benefits

Our solutions offer scalability and reliability by using incredibly large datasets to train our AI models with science-based algorithms. This provides dynamic scalability from small localities (60 meters) to entire cities (thousands of kilometers) over various time ranges (hours, days, months, years), ensuring both spatial and temporal aspects are covered. In terms of public health and safety, our system identifies high-risk areas, implements targeted cooling measures, and integrates APIs into existing building management systems for improved predictions and energy requirements, ensuring accountability in climate resilience efforts and ultimately achieving climate justice for all. Additionally, our solutions improve livability by enhancing health, worker productivity, tourism, walkability (by informing people of cooler routes), and community engagement, creating cooler, more comfortable urban environments. They promote sustainability and economic efficiency by reducing energy consumption and carbon emissions.

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