Mapping the Unmapped World with Mapillary

Lindsey Higgins, PhD
Mapillary is the street-level imagery platform that scales and automates mapping.
The world is changing quickly

The total area covered by cities across the world is set to triple over the next 40 years, fueling the need for a faster and scalable way to update maps.
Scaling and automating maps with cameras

Problem
Traditional maps struggle to keep up with how quickly the world is changing

Solution
→ Scale by opening up data collection to any camera, anywhere
→ Automate with computer vision to speed up map data extraction

Status
Converting imagery to map data at scale is now a necessary core component in mapping
Any camera, anywhere

- Phone
- Action cam
- Dashcam
- Vehicle cameras
- Pro rig
Any camera, anywhere
Simple upload process

Capture and upload directly on the Mapillary mobile apps or use the Desktop Uploader with your own cameras.
Capture Projects

Optimize data collection:

→ Designate your area of interest
→ Divide the area into smaller tasks
→ Assign tasks to team members
→ Follow your team’s progress
Turn any vehicle into a mapping vehicle

See mapillary.com/dashcam for more information
Roughly one billion images and 50 billion objects detected
Computer vision technology
Computer vision technology
Computer vision technology

Mapillary extracts 42 types of objects as points + 1500 different types of traffic signs. Objects include:

- Catch Basin
- Fire Hydrant
- Junction Box
- Manhole
- Utility Pole
- Water Valve
Computer vision technology

Mapillary anonymizes sensitive information like faces and license plates in every image at 99% accuracy.
Building Resilience
Rallying the community: #map2020

A campaign by Mapillary and Humanitarian OpenStreetMap Team to map the undermapped regions of the world.

33 teams from 27 countries:
Including Columbia, Nigeria, Bangladesh, Iraq, Ukraine, and Uganda.
Earthquake resilience in Erbil, Iraq

Iraq has been hit by 53 earthquakes over the last year. The last major one in 2017 killed 600+ and injured 8,000+ more.
Earthquake resilience in Erbil, Iraq

Because of a lack of adequate and dependable maps, humanitarian agencies were struggling to find routes to reach people in affected areas.

“This specific map will be an important tool when a disaster strikes to assess the situation more quickly. The aim is to provide relief workers with the tools to facilitate the decision-making process.”

- Mohammed Faisal, team leader
Earthquake resilience in Erbil, Iraq

Over a one-month period, a group of ten mappers captured over 103,000 street-level images across Erbil using the Mapillary mobile apps.
Earthquake resilience in Erbil, Iraq

Automatically extracted traffic signs, manholes and junction boxes were added to OpenStreetMap by the Erbil team—with 400 changesets in total.
Staying for the rest of State of the Map?

Stop by room Comoe on Sunday at 12:30 for:

Using street-level imagery in the fight against illegal waste dumping: Lessons from Uganda

Presented by Henry Sseruwagi
Staying for State of the Map Africa?

Win a GoPro and help build better maps with Mapillary

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