tinyML® EMEA

Enabling Ultra-low Power Machine Learning at the Edge

June 26 - 28, 2023

www.tinyML.org

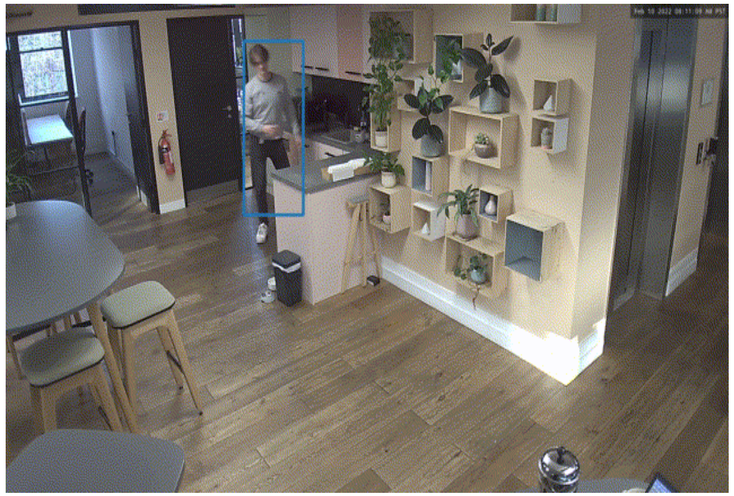
Tiny Familiar Face Identification

A Privacy-Preserving Solution for
Personalizing Your Devices

Tim de Bruin

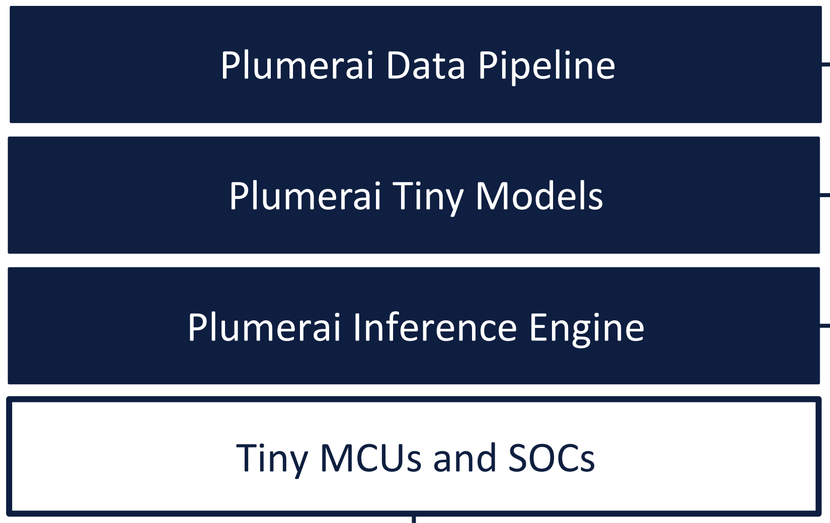
Plumerai

- Plumerai People Detection
- Plumerai Head Detection
- **Plumerai Familiar Face Identification** ← This presentation
- Plumerai Inference Engine – ML Compiler



How Plumerai makes AI tiny

We cover the entire AI stack



30M images, extensive in-house tooling to analyze, label, and optimize

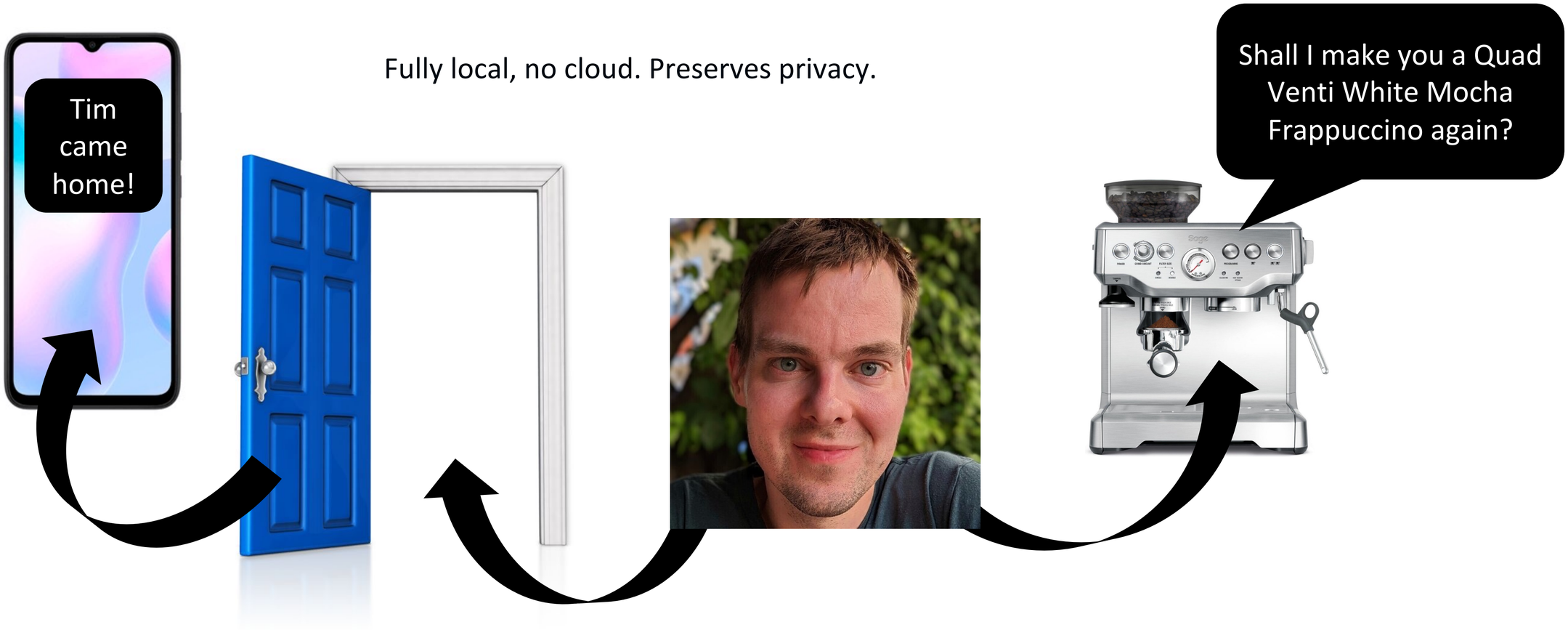
Custom architectures and training strategies

World's fastest inference engine

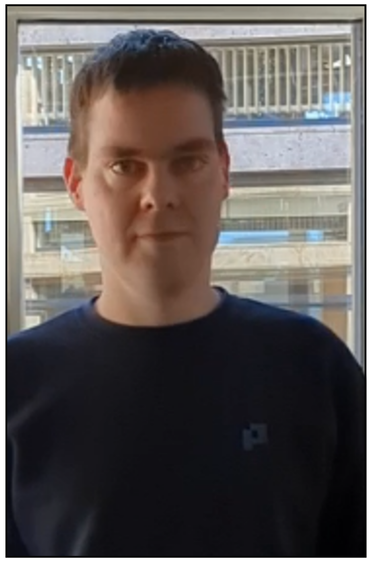
Run it on low power, small processors

Familiar Face Identification

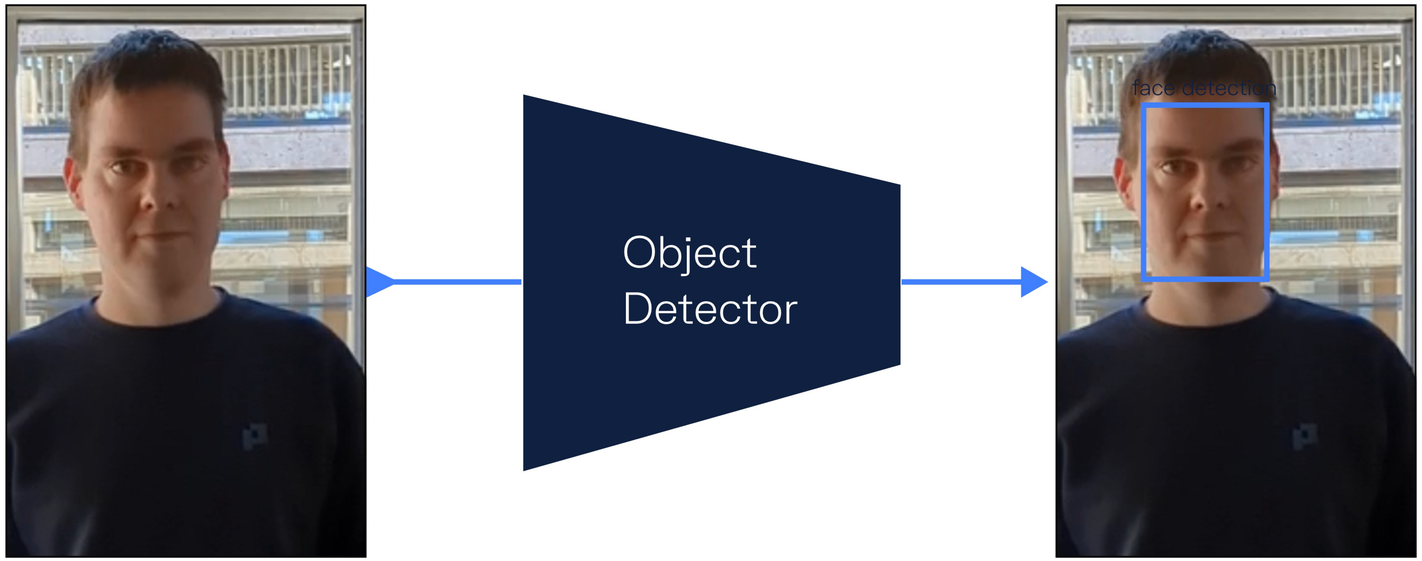
Fully local, no cloud. Preserves privacy.



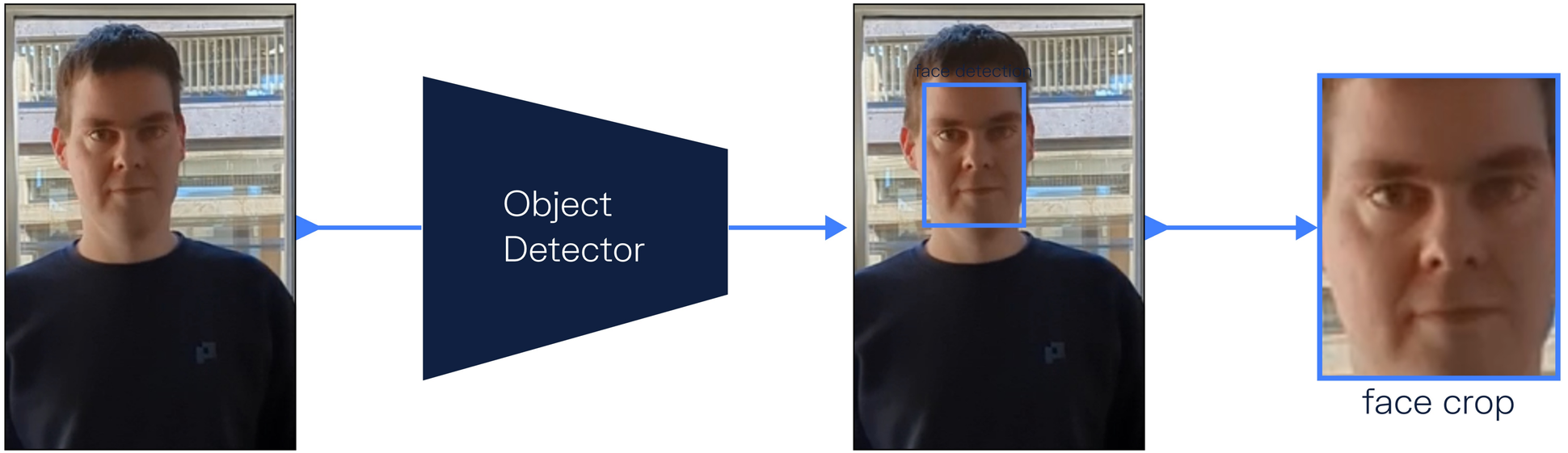
Face Identification



Face Identification

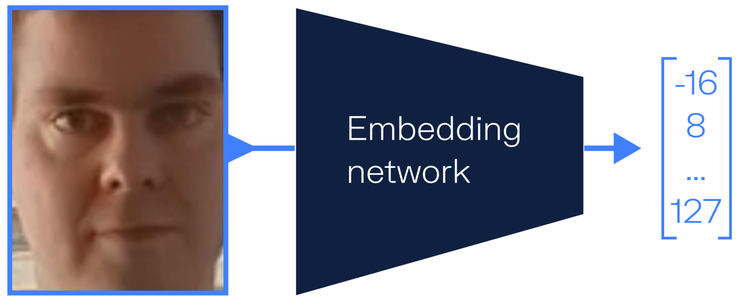


Face Identification



Face Identification

Face Identification



Face Identification

Face Identification

Face Identification

Face Identification: enrollment

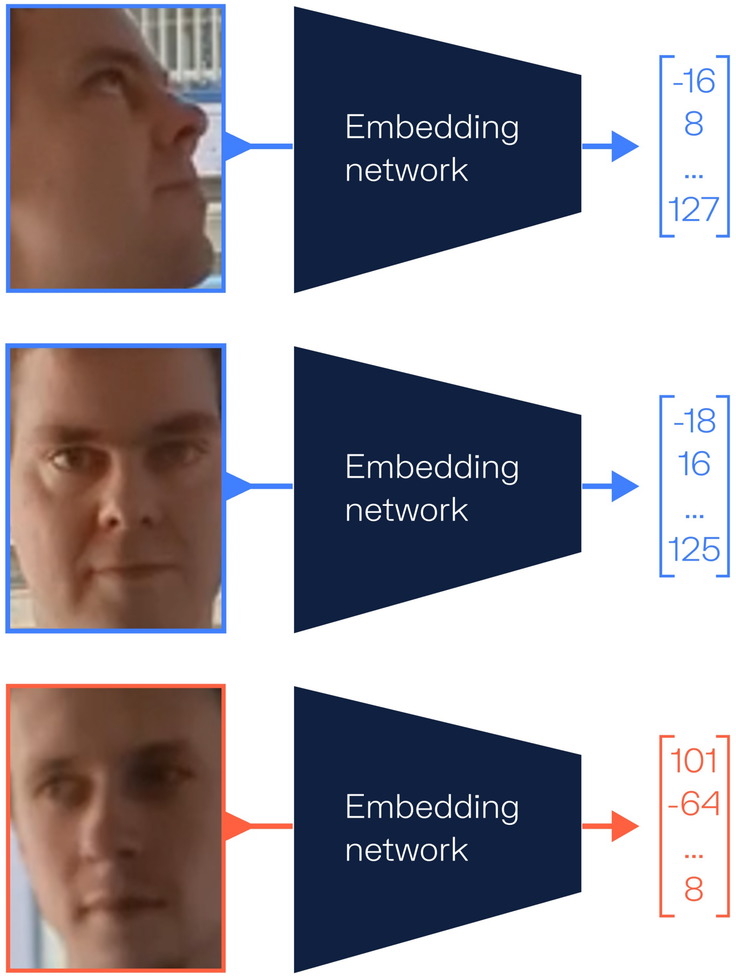
Face Identification: enrollment

Face Identification: inference

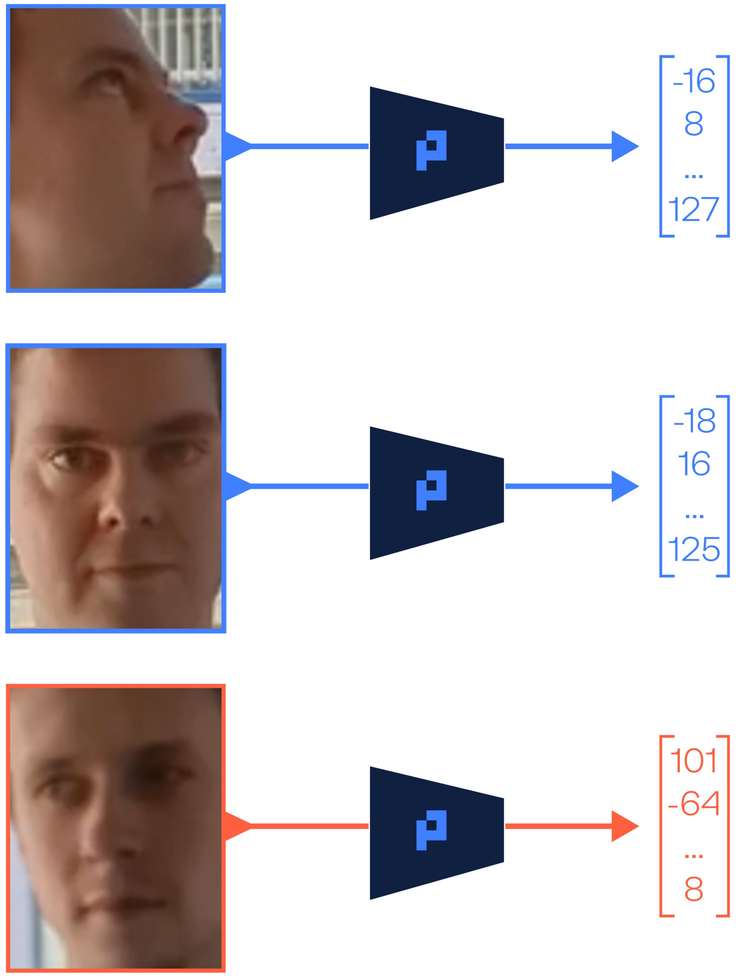
Face Identification: inference

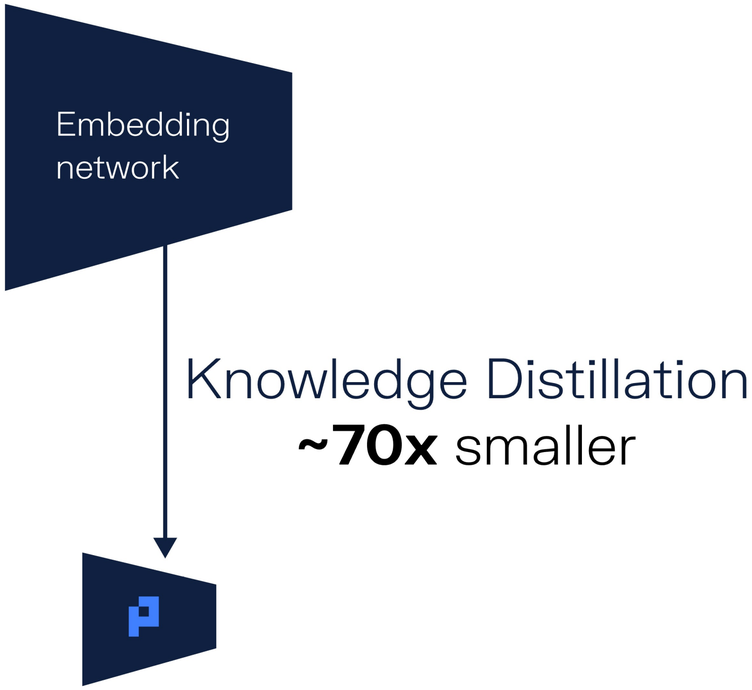
Making it **tiny & fast**

Making it **tiny & fast**



Making it **tiny & fast**





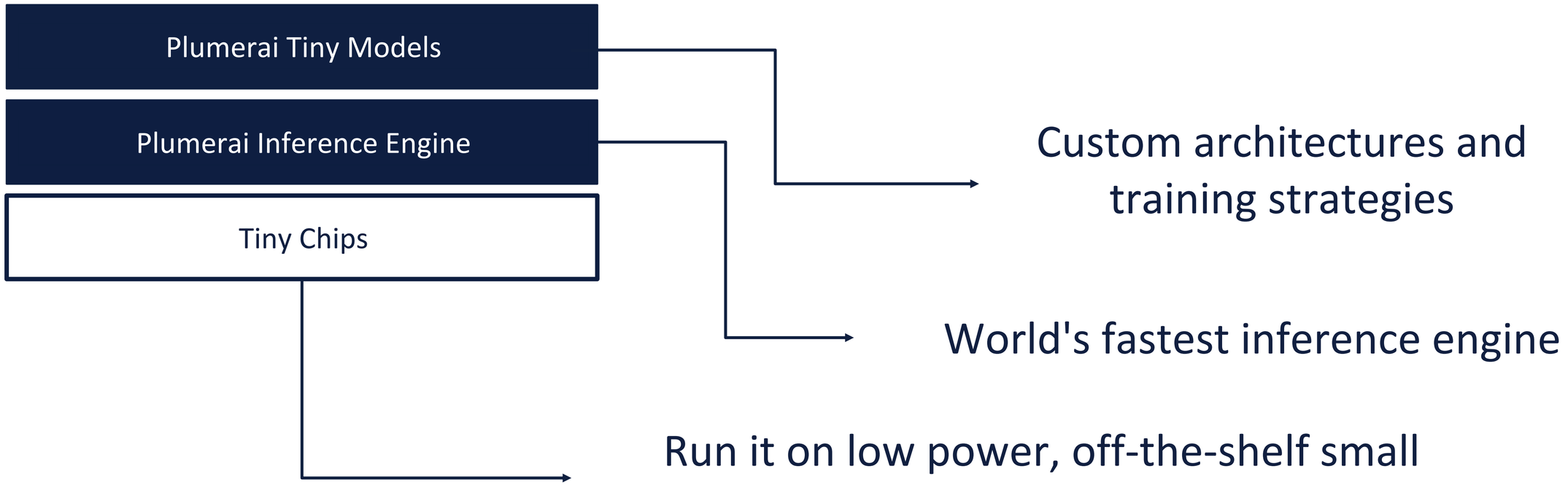
Making it **tiny & fast**

SINGLE CORE ARM CORTEX-A72 @ 1.5 GHz

22 frames/s

WITH A TINY FOOTPRINT

5.7 MB



Making it **accurate**

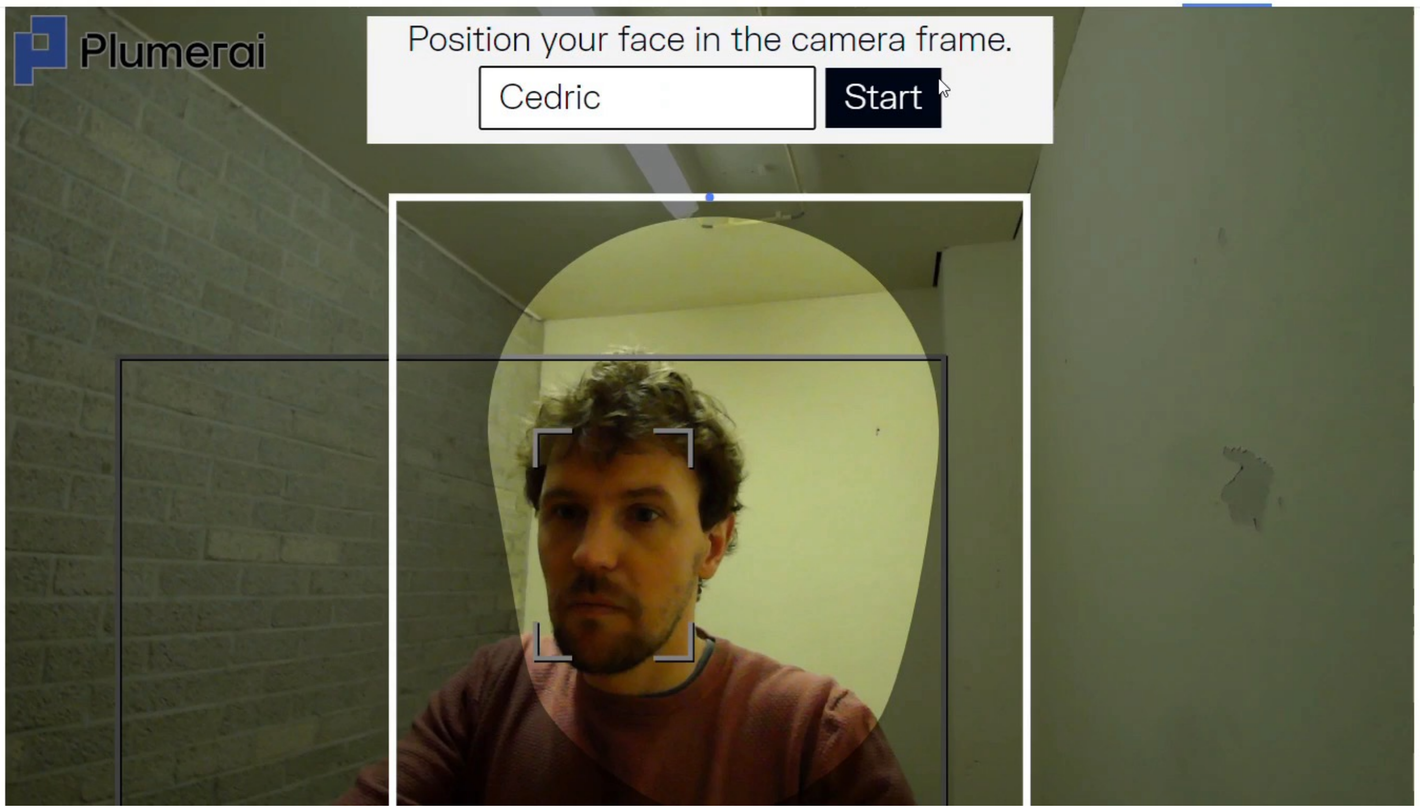
Making it **accurate**

Making it **accurate**

Making it **accurate**

Making it **accurate**

Try it yourself!



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https://plumerai.com/face-identification-live

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