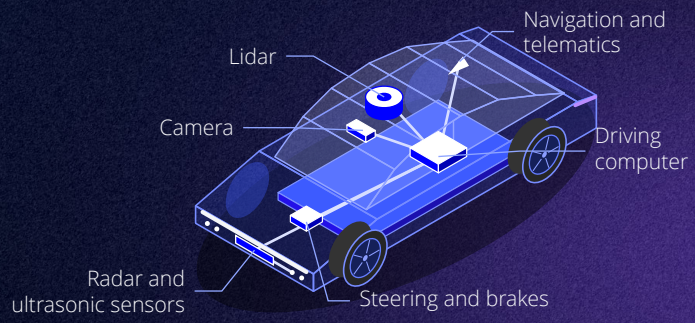
Interpretica

# Midair for Automotive




**Write code fast with AI.**
Midair checks it.

## 01 Code analysis

Visao

Visao checks firmware source and binaries without running them. It uses abstract interpretation and the Z3 and cvc5 solvers to track values across function calls and report defects.

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|---|---|
| **Build tracing** | Without a compile database, Visao runs the build and records each compiler call. |
| **Defects** | Out-of-bounds access, use after free, integer overflow, memory leaks, locks left held on error paths, and untrusted input passed to shell commands. |
| **Without source** | Machine code for ARM, AArch64, RISC-V, PowerPC, MIPS and x86, with the same rules. |
| **Standards** | MISRA C:2012, and a CycloneDX dependency list checked for known vulnerabilities. |

**19** languages **300+** rules **7** CPU architectures **4** target OS

## 02 Tests

TS Factory

TS Factory runs test suites on real devices and restores their configuration after each test.

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|---|---|
| **Buses** | CAN frames, and a check for diagnostic services that answer without authentication. GPIO, $I^2C$, SPI, USB, sensors and the hardware watchdog. |
| **Flashing** | TS Factory writes firmware over DFU, fastboot, flashrom, esptool or JTAG, reads it back and compares the SHA-256. |
| **Power** | Voltage, current and energy per test; power switches that turn the device off and on. |
| **Radio and network** | Bluetooth, Wi-Fi, and a software-defined radio that records a signal and replays it. TLS, MQTT, HTTP and SSH; tests check that the device rejects a bad server certificate. |
| **Computer vision** | OpenCV on the test agent compares screenshots, finds icons, checks indicator colours, reads text and decodes QR codes. The image stays on the agent. |
| **AI image review** | Screenshots of web pages, mobile apps and virtual machine displays go to a vision model, cloud or local, which checks them for broken layouts and error screens. |
| **Rare cases** | Fuzzing that keeps crash inputs for regression runs. A fake clock for certificate expiry and timers. Virtual machines that roll back to a snapshot. |

**100+** technologies **50+** modules **C** core language

## 03 Monitoring

Delta

Delta compares each unit with an approved baseline and reports what changed.

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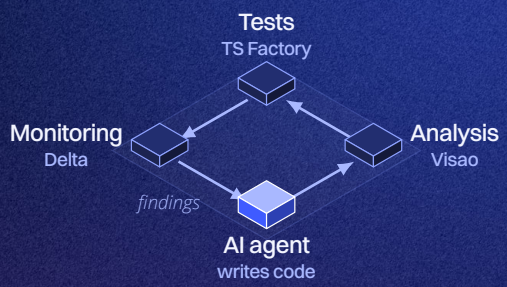
|---|---|
| **Collects** | Processes, open ports and their owners, mounts, file checksums and permissions, packages, routes, kernel modules, SSH keys, and system calls sampled with eBPF. |
| **Compares with** | An approved unit, a written policy, the rest of the fleet, known vulnerabilities. |
| **Before release** | On a mounted firmware image, Delta lists files changed since the approved build. |
| **In Midair** | Midair installs Delta over SSH and shows what changed on each unit. |

**1.3 MB** Linux ARM64 **0** runtime dependencies

## Midair finds bugs and your AI agent fixes them

Midair runs the same checks on each new version.

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