The Origin Story

WiFi Sensing to Improve Everyday Life

Overview

Origin Wireless AI, "Origin", was founded by Dr. Ray Liu, a distinguished electrical engineering professor at the University of Maryland.

Dr. Liu and his team of researchers discovered a new way to use WiFi. Instead of just providing an internet connection, they realized WiFi could be used for sensing. This was a major breakthrough. WiFi could now be used to detect a person's motion, opening up immense potential for WiFi sensing.

Digging deep into their research, the team developed a collection of artificial intelligence WiFi sensing engines. These are software algorithms that calculate how WiFi waves bounce, break, and bend around people. Each algorithm is trained to detect different important events, such as a person intruding a home, a baby breathing, or an older adult falling. They called it wirelessAI™, an artificial intelligence software platform that expands a whole new world of WiFi applications.

Origin is now rapidly commercializing its wirelessAI™ platform. By partnering with key players in major verticals, such as home security, healthcare, internet service provision, IoT, and automotive, we hope to bring wirelessAI™ to the world.

We truly believe WiFi can help improve everyday life.

Rooted in Research

2012

Dr. Liu and his team were sponsored for a research project to solve a radio communications problem on submarines – handheld radios and walkie talkies would not work through the metal walls.

To tackle this problem, the team studied radio wave patterns. Through their research, they realized you can sense many activities based on how radio wave patterns change. This was a major innovation, in meant WiFi could be used for sensing.

Dr. Liu and his team continued to study radio wave patterns and developed a suite of artificial intelligence algorithms. Each algorithm was trained to sense a specific thing, such as a person walking between rooms, sleeping, or tripping and falling.

2013

Origin is officially founded as a company by Dr. Liu and his colleague Dr. Jeng-Feng Lee.

R&D work begins using open source WiFi chips that provide channel state information.

Development & Expansion

2014   2015   2016   2017

2014–17

R&D continues, and the Origin team begins to explore the use cases of WiFi sensing.

Each engine now had its own purpose – the motion engine will be used for home security and the breathing and fall detection engines will be used for elderly monitoring. Origin also develops a tracking and navigation engine, useful for tracking factory assets and guiding people indoors.

Through this R&D, the Origin Home, Health, and Tracking platforms were established.

2016–17
Origin establishes global offices in Taiwan and Japan, working closely on manufacturer relationships and business development.

Oct 2017
Origin receives the CEATEC Grand Prix Award in Community Innovation.

Establishing Strategic Partnerships

With a stable foundational technology, Origin begins to establish partnerships with key industry players. These were WiFi router brands, chipset vendors, and original equipment manufacturers (OEMS).

2018

Qualcomm

Jan 2018

Origin partners with Qualcomm to deliver its Home and Health solutions on the Qualcomm Mesh Networking Platform.

ASUS

Jun 2018

Origin partners with Asus to launch AI enabled WiFi sensing on the Asus Lyra mesh routers, demonstrated at Computex 2018.

2019

WNC Wistron NeWeb Corp.

Jan 2019

Origin partners with WNC, to develop an aftermarket smart car dongle that enables Child Presence Detection in cars by detecting motion and breathing.

belkin   LINKSYS

Oct 2019

Origin partners with Belkin and Linksys to launch Linksys Aware – the world's first-ever motion sensing solution on an existing mesh WiFi product.

Scaling & Commercialization
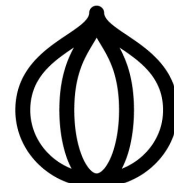
2019

Nov 2019

Origin debuts "the Onion"

a complete firmware, cloud, and app WiFi sensing solution. Customers and partners can take adopt layers as needed for seamless integration into their existing products. The Onion enables a flexible go-to-market strategy for B2B customers. Already have an app? Great, you can take our cloud and firmware. Need an entire white-labeled system? We can do that too!

2020   Dec 2020

muRata INNOVATOR IN ELECTRONICS

Oct 2020

Origin partners with Murata to expedite adoption of smart WiFi sensing in automobiles.

Origin's wirelessAI™ software platform combines with Murata's proven WiFi hardware modules and extensive global support team.

ORIGIN™ HEALTH

Nov 2020

Origin launches Remote Patient Monitoring (Origin RPM), developed in collaboration with the Taipei City Government.

The platform provides an accurate, discrete, and non-contact remote patient monitoring system for elderly care centers. Caregivers can monitor their resident's breathing, sleep, daily activity, and more, all powered by wirelessAI™.

Hex

Dec 2020

Origin announces the launch of Hex, a DIY home security system that uses WiFi sensing to reduce false alarms and eliminate motion detectors and contact sensors.

Hex will be available for the B2C market in Spring 2021 and also for the B2B market as a turnkey solution.

Origin RPM is selected for the 2021 CES Best of Innovation Honoree Award in the software & mobile apps category.

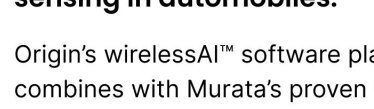Hex is selected as a CES 2021 Innovation Awards honoree for its mobile application.

CES INNOVATION AWARDS 2021