Karthikeyan Sugumaran

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Professional Summary

Wireless LAN technology leader with over 24 years of experience at Qualcomm, Atheros, Broadcom, Athenasemi, and Telesilikon. Expertise in 802.11 standards, chip definition, silicon bring-up, software design, device drivers, firmware, and customer feature delivery. Specialized in WLAN product design for access points, scan radios, and stations across enterprise, retail, and carrier segments.

Recent focus on integrating AI and machine learning into Wi-Fi solutions to enhance network performance, predictive diagnostics, and anomaly detection. Successfully led product definition, engineering, and cross-functional teams across hardware, software, and verification groups, delivering high-volume WLAN solutions globally.

Core Skills

- **Wireless**: 802.11 (a–bn), Bluetooth, Coexistence
- **WLAN Product Design**: Access points, scan radios, stations (Enterprise, Retail, Carrier)
- **Product Leadership**: Definition, engineering, roadmap execution
- **People Management**: Leading high-performing teams, mentoring engineers
- **Cross-Functional Collaboration**: HW/SW integration, global teams, multi-geo delivery
- **Embedded Systems**: Device drivers, firmware, system integration
- **Platforms**: Linux kernel & user space, networking protocols (TCP/IP)
- **Programming Languages**: C, Python, Shell
- **Software Development Methodologies**: Agile, Waterfall, Iterative, etc.
- **Emerging Technologies**: Wi-Fi + AI/ML solutions for network optimization and analytics

Work Experience Summary

Company	Period	Role
Qualcomm India Private Limited	2011–Present	Sr. Staff Engineer
Atheros LLC India Private Limited	2008–2011	Lead Engineer
Broadcom India Private Limited	2005–2008	Sr. Staff Engineer
AthenaSemi	2002–2005	Sr. Firmware Engineer
TeleSilkin	2000–2002	Firmware Engineer
A.D.E	1999–2001	Contract Engineer

Experience

Senior Wireless Engineer & Product Leader   2001–Present
Qualcomm — Atheros — Broadcom — Athenasemi — Telesilikon

- Defined product features and guided silicon-to-software development across multiple Wi-Fi generations, enabling successful product launches.
- Built and managed high-performing engineering teams, fostering innovation and accountability, and drove programs from inception to successful completion.
- Coordinated cross-functional hardware, software, and verification teams across geographies for aligned deliver
- Designed WLAN solutions for access points, scan radios, and stations, addressing enterprise, retail, and carrier needs.
- Developed AI/ML-enhanced Wi-Fi solutions, improving network performance, interference management, and predictive diagnostics.

Achievements

- Contributed to WLAN evolution from 802.11a through 802.11bn.
- Shipped multiple high-volume WLAN chipsets for global markets.
- Drove customer-facing feature delivery and resolved complex field issues.
- Applied AI/ML to Wi-Fi networks for traffic optimization and anomaly detection.
- Successfully managed distributed cross-geo technical teams for product releases.

Patents

- US20180027518A1 – Proximity sensing using spectral analysis.
- **(Filed)** – Access Point (AP) spectral scan using neural networks (NN).

Education

B.E. Electronics and Communication Engineering   1994–1998
Bangalore University