

Contact

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Top Skills

Technology Management
Power Management
Apple Products

Dave DeMuro

CTO at Joule Case
Marietta, Georgia, United States

Summary

Innovative and analytical electrical engineer with MBA and more than 30 years of experience in product development, technology deployment and business management. Areas of expertise include battery and battery management system design, technology management, business management, engineering management, marketing and quality control. Excellent written and verbal communication skills, strong customer skills, a high degree of creativity, energy, and broad-based experience operating in a fast-paced, global technology environment. Fosters strong working relationships with internal and external parties to achieve established goals. Drives the creation of technical initiatives to increase corporate revenue. A forward-thinking leader who facilitates the expansion and prosperity of a corporation.

Experience

Joule Case

3 years 4 months

Chief Technology Officer

June 2022 - Present (1 year 11 months)

United States

Driving the execution of Joule Case's vision to provide clean, reliable power where you need it, providing Lilon-based energy systems in the 3kWh to 30kWh range. We are also developing larger systems capable of powering entire outdoor music venues, as well as supporting EV fast charging in areas where the grid is unavailable or incapable of providing the requisite power.

Vice President Of Engineering

January 2021 - July 2022 (1 year 7 months)

Led the development of Joule Case's next generation modular, stackable energy system designed to replace combustion generators across a wide range of applications, including home backup, mobile entrepreneurs, RVs, camping, etc.

Apple

Hardware Engineering, Battery and Power Systems

October 2008 - December 2019 (11 years 3 months)

Cupertino, CA

- Led the development of advanced battery modules and power systems for use in Apple portable consumer products, including MacBook, iPhone, iPad, #Watch and accessories. Directly responsible for the designs embedded in more than 1 billion Apple products, successfully achieving industry-leading energy density, charge rate and state-of-charge/state-of-health reporting accuracy.
- Recognized expert in BMU (Battery Management Unit) technology, including sub-systems for safety protection, state-of-charge reporting, state-of-health monitoring, peak power estimation, low impedance power path management and high speed communication.
- Extensive experience in managing high volume manufacturing at third-party vendors in Asia region. Traveled extensively to China and other East Asian countries to oversee factory introduction of Apple battery modules. Expert in assisting vendors in producing high volume designs with maximum quality, including IC vendors, cell manufacturers, BMU assembly houses and system integrators.
- Drove development of advanced lithium-ion cell models for use in optimizing charge algorithms, maximizing battery service life, estimating peak power and reporting state-of-charge and state-of-health information.
- Regularly interfaced to executives at all levels of Apple, providing regular updates regarding design approach, status, issues, risk assessment, cost and schedule performance against program goals.

Texas Instruments

Product Manager

November 2005 - October 2008 (3 years)

Dallas, TX via Atlanta GA

- Drove new product technology for advanced battery fuel gauge and protection systems for portable devices. Markets included handheld devices, notebook PC battery packs, vertical markets and industrial and commercial applications. Served as the primary interface from the business unit to customers, account managers and applications engineers. Addressed day-to-day issues with delivery, quality, and new product development.
- Developed and presented product and technology roadmaps to customers; solicited input for new devices and fed this information back to the

development of new devices. Drove the business' product development team on new ICs incorporating advanced gas gauge firmware and hardware.

- Facilitated multiple design wins in the notebook PC battery space, adding significantly to TI revenue.
- Traveled extensively, worldwide, meeting with customers to foster relationships between TI and customers' engineers, cross-functional teams and senior managers.

Motorola Energy Systems Group

Manager, Advanced Technology

2001 - 2005 (4 years)

Atlanta, GA

- Led advanced development team in creating new product concepts utilizing emerging energy technologies for portable devices such as fuel gauge systems, lithium-ion control circuits, advanced cell chemistries, charge control circuits, and wireless power transfer. Evaluated new energy technologies for application in portable devices including fuel cells, hybrid energy systems, cell balancing systems, power management, solar power, kinetic power, and other alternative energy technologies. Successfully demonstrated an effective wireless charging solution for Motorola's iconic Razr series of phones.
- Led technology roadmap development and worked closely with system and component suppliers to align supplier roadmaps to Motorola's roadmaps to ensure timely deployment of advanced technology in commercial products.
- Coordinated the intellectual property development and monetization programs within the business. Doubled the number of patent disclosures in one year by leading a comprehensive intellectual property renewal program.

Motorola Mobile Devices

Product Manager & Engineering Manager

1994 - 1997 (3 years)

Atlanta, GA and Libertyville, IL

- Led a team of approximately 30 individuals in development, marketing and sale of OEM battery and power electronics products to OEM customers. Grew the business from < \$10M to >\$75M in sales in two years by securing design wins with key accounts such as Qualcomm, Symbol, Compaq, Dell, Micron, Philips and others.
- Coordinated the activities of worldwide manufacturing, account management, and engineering functions in support of all OEM accounts in the notebook, cellular, commercial, and vertical markets. Position involved significant international travel.

- Led a team of engineers in developing advanced energy systems for Motorola's iconic mobile devices, including the MicroTAC family of cellular phones and the StarTAC wearable cell phone.
- Led the development of the first lithium-ion battery pack deployed in a high-volume cellular application. Design included advanced circuitry for achieving compatibility with existing chargers, as well as storage of battery parameters.
- Led a team of RF design engineers in developing circuits and systems for use in the MicroTAC Elite cellular telephone. Key systems developed included RF amplifier, mixer, IF amplifier, VCOs, synthesizer, power amplifier, antenna duplexer, and accessories.
- Responsible for cell phone compliance to RF specifications as defined in U.S. and international air interface.
- Developed system architecture, and coordinated RF and power management ASIC development with suppliers.

Education

University of Illinois Urbana-Champaign

BSEE, Communication Systems · (1980 - 1984)

Illinois Institute of Technology

MBA, Technology Management · (1989 - 1993)