

SUHAS GUPTA

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Electrical Engineer

Looking for a role in pushing the limits of technology to solve most today's challenging engineering problems

Data Analysis and Modeling
Semiconductor Technology
Innovative Silicon Solutions
PCB Prototyping and Design
Global Team Leadership
Analog & Digital Circuit Design
Multidisciplinary Collaboration
International Factory Support
Research and Development
Software Automation

Electrical engineer with 9 years of expertise in electrical engineering, hardware design and debug, CPU design, silicon technology development, data modeling and circuit design.

Expert in transistor and block-level circuit design with keen ability to navigate trade-offs between performance, reliability, manufacturability and silicon cost.

Advanced expert in CAD tools for schematic & layout design, and simulation of analog and digital circuits both at transistor and board level.

Expert in programming in Matlab, UNIX shell & python languages for automation & design of circuits and systems, and productivity enhancement.

Direct and mentor geographically dispersed engineering teams and produce innovative and high-quality results.

CAREER ACCOMPLISHMENTS

- **“Intel Achievement Award”** for enabling \$1.5 Billion in savings through innovation and execution excellence leading to **“Best in Class SOC High Voltage IO Scaling in 14nm semiconductor technology”**
 - ❖ *Highest honor at Intel awarded to less than 1% of total employees world-wide each year*
 - Multiple department recognition awards for innovation and flawless execution of 22/14/10/7nm semiconductor technology
 - Continuously produce invention disclosures in areas of transistor architecture, on-chip signaling, die-attach technology and analog design methodology maintaining Intel's technical lead over competition
 - Developed software and scripts using Cadence SKILL programming language to develop Intel's first parametrized cell library.
 - Developed suite of scripts and software applications to facilitate EE data collection, analysis and inference.
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PROFESSIONAL EXPERIENCE

APPLE INC. – Cupertino (CA)

Electrical Hardware Engineer (9/2017 to Present)

Lead electrical design engineer for MacBook Pro displays. Leverage technical and management expertise to collaborate with cross functional and geographically diverse teams to develop the state of art display technologies and products.

- Leading the design capture and prototyping of schematics and PCBs (flexible, rigid, hybrid) with internal and external partners and lead bring-up and validation tasks
- Providing factory support and take product through life cycle including conception, assembly, debug and mass production.
- Designed and developed software in MATLAB and Python to aid in design and verification of electrical characteristics of display hardware to improve design cycle efficiency. Developed suite of applications to control lab tools remotely and process EE measurement data reducing EE validation time-cycle from several weeks to few days.
- Developed software for image processing to detect and resolve image ghosting issues in liquid crystal displays. This application provides a significant boost to product development time by making the detection of display characteristics quantitative and less prone to human errors.
- Created cross platform automation using standard communication protocols (I2C, UART, USB, SPI etc.) to control lab equipment, perform debug and bring-up, and create automation for data collection.

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INTEL CORPORATION – Hillsboro(OR), Santa Clara(CA)

Design Engineer and Semiconductor Technologist (2010 to 2017)

Steer semiconductor technology direction and CPU architecture for data center products. Leverage technical expertise in circuit design and semiconductor technology to cultivate, evaluate, and propose groundbreaking solutions to influence technology and product roadmap formation. Applied expertise in library and test chip development, as well as excellent team leadership abilities. Led design of fundamental semiconductor devices and circuits for mixed signal IP development. Defined complex DRC/DFM rules, directed test chip execution, silicon correlation and model development. Assisted in hiring and mentoring new staff.

- Drove definition of innovative 3D die attach, chip integration, package technologies and interconnect architecture to drive next generation server SOC cost scaling.
- Developed software scripts to perform gradient descent based circuit optimization in order to find minimum energy-delay profile of different on-chip interconnect architectures. This algorithm helped define a comprehensive energy-delay optimization strategy for heterogeneous integration of high core-count dies.
- Directed Intel's first PCELL-based library development in 22nm IoT (Internet of Things) process using Cadence SKILL programming. This enabled a critical capability for Intel to compete in IoT product space.
- Managed PDK development and support, including facilitating meetings, execution goals, risk identification and mitigation, and coordinating development efforts between geographically distributed engineering teams.
- Designed passive and active semiconductor devices and libraries in 22nm, 14nm, 10nm, and 7nm while navigating tradeoffs in design metrics, reliability, silicon area, and process yield.

WIPOWER, INC. (Acquired by Qualcomm) – Gainesville, Florida

Electrical Engineer, 1/2010 to 8/2010

Managed product development life cycle, including specifications, circuit design and layout, PCB development, and debugging. Developed wireless power transfer products using loosely coupled magnetic systems for items ranging from mobile phones to bathtubs, as well as DC-DC converter circuits, voltage regulators, filters, and PCB schematics & layouts.

- Designed wireless power systems, PCB schematics and boards and conducted pathfinding activities for new technologies
- Authored research proposals for wireless power systems securing \$1.5M in government funding.

EDUCATION AND CERTIFICATIONS

UNIVERSITY OF FLORIDA, Gainesville, Florida

Master of Science in Electrical and Computer Engineering

NATIONAL INSTITUTE OF TECHNOLOGY, India

Bachelor of Technology in Electrical and Computer Engineering

Certifications: Specialization in Power Electronics – UC Boulder via Coursera, in progress; Machine Learning – Stanford University via Coursera; Advanced SKILL Language Programming v. 5.1.41 – Cadence

Programming: Cadence SKILL, C, C++, Matlab, Python, Unix, Swift

Invention Disclosures: FinFET Transistor Architecture; Analog Design Methodology; High-speed On-Chip Signaling Techniques