



Lecture 21

Conclusion and Parting Messages

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<http://classes.engineering.wustl.edu/ese566/>

- Technology and Methods
 - CMOS devices and circuits
 - ASIC design methodology
- Computer Architecture and System Stack
 - ISA, processors, memory hierarchy
 - Design patterns (e.g. single-cycle, FSM, pipeline)
 - System integration
 - Hardware acceleration
- Languages and Tools
 - Verilog, Tcl
 - Synopsys VCS (Verilog Simulation)
 - Synopsys Design Compiler (Netlist Synthesis)
 - Cadence SOC Encounter (Physical Design)

Example Job Positions



📍 US, TX, Austin

Apply

Apply with LinkedIn

Nvidia's invention of the GPU 1999 sparked the growth of the PC gaming market, redefined modern computer graphics, and revolutionized parallel computing. More recently, GPU deep learning ignited modern AI – the next era of computing – with the GPU acting as the brain of computers, robots, and self-driving cars that can perceive and understand the world. Today, we are increasingly known as “the AI computing company”. We are looking to grow our company, and grow our teams with the smartest people in the world. We are looking for you.

We are now looking for an ASIC Engineer

The NVIDIA System-On-Chip (SOC) group is looking for a top ASIC Engineer with an interest in RTL verification and design as well as integration. The ideal candidate for this position also has real passion for methodologies and automation solutions that enable creating SOC's in the least amount of time. In this position, you will be involved in defining and developing system-level methodologies, tools, and IP that create more efficient and flexible SOC's in the future. Additionally, you will have the opportunity to interface directly with unit-level, Physical Design, CAD, Package Design, Software, DFT and other teams.

What we need to see:

- MS in EE or Computer engineering, with a minimum of 3 years of relevant industry work experience
- Experience in verification (SystemVerilog), RTL design (Verilog), implementation flow, and synthesis
- Experience in architecting and implementing test benches and test bench components
- Excellent analytical and problem solving skills
- Strong coding skills in Perl or other industry-standard scripting languages
- Excellent communication skills to interface with many groups and build consensus
- Good team work spirit, easy to cooperate with team members
- Prior experience in RTL build and design automation is a plus

🕒 Posted 27 Days Ago

📄 Full time

📄 JR1905690

About Us



THE WORLD LEADER IN VISUAL COMPUTING

For more than two decades, NVIDIA has pioneered visual computing, the art and science of computer graphics.

With a singular focus on this field, we offer specialized platforms for the gaming, professional visualization, data center and automotive markets.

Our work is at the center of the most consequential mega-trends in technology – virtual reality, artificial intelligence and self-driving cars.

Learn more about [NVIDIA](#).

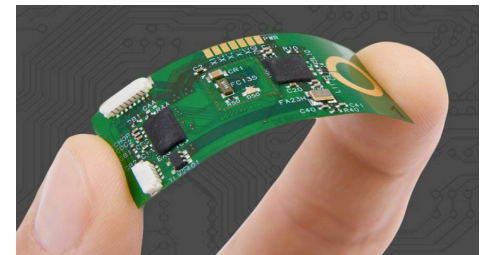
The Trend: Follow, Catch, or Create?



- Intelligent Recognition
 - computer vision, artificial intelligence
- Internet of Things
 - Sensing (Analog)
 - Computing (Digital)
 - Wireless (RF)
 - Energy harvesting (Power)



- Software-Hardware Co-design
 - Analog/Digital/Mixed Signal/Radio...
 - Interface/Communication/Internet/Cloud...
 - Application/Regulation/Resource/Material...



- Problem
 - designing micro-scale autonomous systems with enhanced security and resilience.
- Approach
 - co-design of algorithm, computer architecture, circuits, and sensing and actuation mechanisms.
- Projects
 - reconfigurable deep learning hardware
 - integrated voltage regulator (IVR) cross-layer modeling
 - energy-efficient software-assisted power delivery
 - novel CMOS devices for non-reciprocal energy transfer
 - verifiable hardware against side-channel attack
 - sensor-fusion chip for vision-based robotic control



- Class project report
 - due on 5/8 by 11:59pm
 - no extension due to final grade deadline
 - refer to guideline on <http://classes.engineering.wustl.edu/ese566/Lecture/week13b.pdf>
 - if you need help, use Piazza or email TA to schedule a meeting
- Lab3 and project grades
 - will be posted on Blackboard
- Class evaluation
 - will send reminder email
 - account for 3 points in final grade



Questions?

Comments?

Discussion?