JOHN YOUKHANA

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EDUCATION

University of Illinois at Urbana-Champaign | Grainger College of Engineering
Bachelor of Science in Electrical Engineering   Expected Graduation: May 2027
Relevant Coursework:

(ECE 340) Semiconductor Devices	(ECE 342) Electronic Circuits	(ECE 385) Digital Systems Laboratory
(ECE 329) Fields and Waves I	(ECE 210) Analog Signal Processing	(ECE 220) Computer Systems & Programming

Wilbur Wright College - City Colleges of Chicago
Associate of Science in Electrical Engineering   August 2022 - May 2024

RELEVANT EXPERIENCE

Illini Solar Car   Champaign, IL
Electrical Team member   August 2024 - Present
- Collaborating with a team of students to design and develop high/low voltage systems, contributing to system integration and PCB board testing
- Designed and tested custom PCB's using KiCAD, conducted rigorous testing to ensure Board functionality and integrity, improving designs by refining layout and component choices.

Wilbur Wright College   Chicago, IL
Engineering pathways Peer Tutor   June 2023 - May 2024
- Provided academic support in Physics, Calculus, and computer science for more than 15+ students per week, using structured problem-solving techniques to ensure students' conceptual understanding.

Vitamin Shoppe   Skokie, IL
Sales Lead   May 2023 - July 2024
- Oversaw daily operations including inventory, scheduling, and customer service; consistently exceeded monthly sales targets through personalized upselling and product education.
- Exceeded August revenue target by 26%, leading in district sales performance; Recognized for highest monthly revenue across   all locations through targeted customer engagement strategies.

The Roomplace   Lincolnwood, IL
Sales Manager   Aug 2021 – May 2023
- Provided tailored furniture consultations by accessing customer needs, layout, and budget. Consistently ranked among top-performing sales associates for customer satisfaction and closing rates.

PROJECTS

Tetris on FPGA | *Digital Systems Lab Final Project*   Spring 2025
- Designed and implemented a fully functional Tetris game on Spartan-7 FPGA using System Verilog, integrating HDMI video output, USB keyboard input via MicroBlaze softcore processor, and audio playback via PWM signal generation
- Engineered game logic with real-time rendering of game environment., block spawning, collision detection, grid clearing. Leveraged VGA-to-HDMI IP, and ROM-based font/text systems to create interactive game environment.

Horn Oscillator   August 2024 – Present
- Designed and tested the Horn oscillator PCB board using a 555 timer to generate a fixed frequency signal. Ensured reliable operation within constraints.
- Created schematics and PCB layout in KiCAD. Optimized trace routing and component placement for efficient operation.

Battery Charge Switch   November 2024 – Present
- Co-developed a battery charge switch with integrated MOSFETs and diodes to regulate current flow and reduce overheating risk during battery charging cycles.
- Assisted with schematics and PCB layout in KiCAD. Tested simulations in LTSpice to ensure proper functionality.

SKILLS

Skills: RTL design | PCB design | FPGA Programming | RTL Simulation/Debugging | Embedded Programming | Soldering
Frameworks/Tools: Xilinx Vivado | Git | Matlab | Fusion 360 | Linux | KiCAD | LTSpice | Oscilloscope | Spectrum Analyzer
Languages: C/C++ | Python3 | Assembly | SystemVerilog | NumPy