

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 2026

Relevant Coursework:

(ECE 340) Semiconductor Devices | (ECE 385) Digital Systems Laboratory | (ECE 342) Electronic Circuits | (ECE 329) Fields and Waves I
(ECE 210) Analog Signal Processing | (ECE 313) Probabilities w/ Engineering Applications | (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 engineers to design and develop high/low voltage systems for project D and calypso, 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.

American Chemical Society at Wilbur Wright College

Chicago, IL

Membership Director

August 2023 - July 2024

- Led recruitment campaigns that increased chapter membership, As well as improved member turnout to chapter events, such as general meetings, lab workshops and chemistry tutoring.

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

April 2025 – Present

- 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 | Signal Processing | Embedded Programming

Frameworks/Tools: Xilinx Vivado | Git | Matlab | Fusion 360 | Linux | KiCAD | Jupyter | Django | LTSpice

Languages: C/C++ | Python3 | LC-3 Assembly | SystemVerilog | NumPy

INVOLVEMENT

Illini Solar Car – Active Electrical Team Member

Institute of Electrical and Electronics Engineers (IEEE) @ UIUC – Active member