

Yilan Liu

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EDUCATION

The University of Chicago

Bachelor's of Science in Mathematics, Computer Science (Theory specialization)

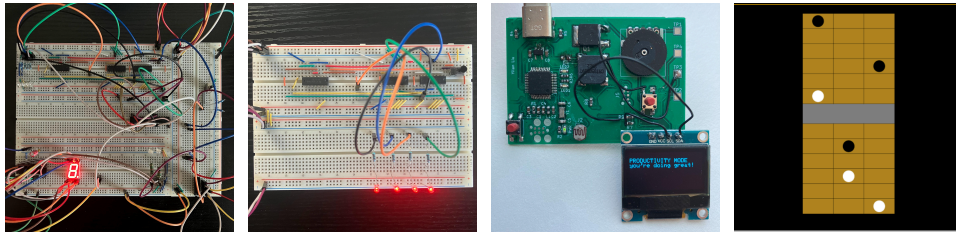
Chicago, IL

June 2023

CAREER OBJECTIVE

- Seeking an **engineering** role.
- After graduating UChicago in 2023 with degrees in Math and Computer Science, I decided to try something completely new and work in the film industry.
- I have since been working in the “G&E” (Grip & Electric) subset of the film industry, which concerns itself with lighting and the rigging of lights. At my current job, I repair LED lights and other auxiliary devices/electronics.
- Working with electronics at such a primitive level reignited my passion for computer science / electrical engineering, particularly as it relates to **digital logic circuit design**, **low-level computer architecture**, and **embedded systems**. You can view some of my projects in these areas below.

PROJECTS



Manually Bit Banging the MAX7219 without a Microcontroller (Hobby project)

- Proved that one can send data in serial fashion to the MAX7219 (display driver) without the need for a microcontroller by just using pushbutton switches.
- Keywords: SR Latch, K-Map, Minimum SoP, Minimum PoS, MAX7219, 7-Segment LED display.

4-bit Counter on Breadboard (Hobby project)

- Wired 4 JK flip flops together to output a 4-bit number that is iterated with each clock pulse. Completely built on a breadboard.
- Keywords: JK Flip Flop, Counter.

Building a Computer with HDL (Hobby project)

- Directly based on the HDL exercises in *The Elements of Computing Systems* by Nisan and Schocken. Used the textbook's version of HDL to build gates like the Arithmetic Logic Unit, Register, Program Counter, and CPU, in order to construct a Computer as the final step.
- Keywords: HDL, Computer Architecture, Memory, Combinational logic, Sequential logic.

Light Sensor “Study Companion” PCB (School project)

- Designed PCB with ATSAM21G18 microcontroller. Wrote and flashed C++ code onto microcontroller to use data from a light dependent resistor in order to control other peripherals. My very first electronics project.
- Keywords: ATSAM21G18 microcontroller, Light dependent resistor, KiCad, C++.

River Game (Hobby project)

- Used HTML, CSS, and JavaScript to build a web browser game.
- Keywords: HTML, CSS, JavaScript.

WORK EXPERIENCE

Film Lighting Repair Department

Lux Lighting - Film Equipment Rental House

Brooklyn, NY
March 2024 - current

- Use schematics provided by vendors to troubleshoot issues in their lights.
- Search for and find faults on boards with various instrumentation.
- Confer with vendors regarding newly discovered issues in their devices.

Film Equipment Rental Coordinator

The Sodium Ranch - Film Equipment Rental House

Brooklyn, NY
June 2023 - Mar 2024

- Interface with producers, DPs, gaffers, and/or other members of the production team to organize outgoing and incoming rental equipment.
- Interface with members of Local 817 to arrange for truck pick-up/return.
- Quality check equipment before they are packed on jobs.

OTHER

- U.S. Citizen