Yilan Liu

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EDUCATION
The University of Chicago   Chicago, IL
Bachelor's of Science in Mathematics, Computer Science   June 2023
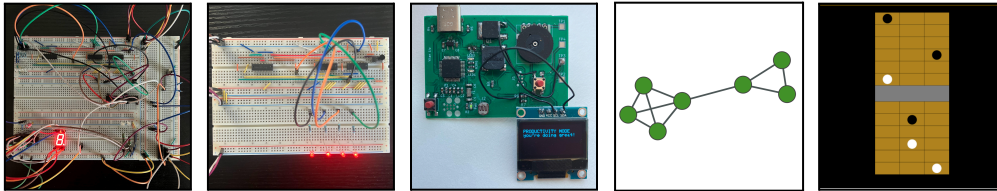
SKILLS
- C, C++, Verilog, Python, Javascript, HTML, CSS, breadboard building/debugging

CAREER OBJECTIVE
- Seeking an **engineering** role after two years of working in film/television post-college.
- I currently repair film/television LED lights and other auxiliary devices/electronics.
- Working with electronics at a primitive level has reignited my passion for CS/EE, particularly **digital design**, **low-level computer architecture**, and **embedded systems**.

PROJECTS

- [Manually Bit Banging the MAX7219 without a Microcontroller](#)
  - Proved that data can be sent serially to the MAX7219 by just using pushbutton switches.
  - Keywords: SR Latch, K-Map, Minimum SoP and PoS, MAX7219, 7-Segment LED display.
- [4-bit Counter on Breadboard](#)
  - Wired 4 JK flip flops on a breadboard to output a 4-bit number iterated with each clock pulse.
  - Keywords: JK Flip Flop, Counter.
- [Building a Computer with HDL](#)
  - Completed all exercises in ch. 1-6 in *The Elements of Computing Systems* by Nisan & Schocken to build a computer using HDL.
  - Keywords: HDL, Computer Architecture, Memory, Combinational logic, Sequential logic.
- [Light Sensor "Study Companion" PCB](#) (school project)
  - Designed PCB with ATSAMD21G18 microcontroller. Wrote and flashed C++ code onto microcontroller to use data from a light dependent resistor to control other peripherals.
  - Keywords: ATSAMD21G18 microcontroller, Light dependent resistor, KiCad, C++.
- Graph Rendering Algorithms with d3.js (school project): Designed algorithms to illustrate design principles in Kindlmann & Scheidegger's "An Algebraic Process for Visualization Design" paper.
- [Tiling a Chessboard](#) (school project): Adapted the pseudocode in Bird's "FUNCTIONAL PEARL: On tiling a chessboard" paper in Scala.
- [River Game](#): Built a web browser game using HTML, CSS, and JavaScript.

WORK EXPERIENCE
Film Lighting Repair Department   Brooklyn, NY
Lux Lighting - Film Equipment Rental House   March 2024 - current
- Use vendor-provided schematics 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   Brooklyn, NY
The Sodium Ranch - Film Equipment Rental House   June 2023 - March
- Provided rental equipment for various productions.   2024