Hongyou Lin

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EDUCATION

Haverford College, Haverford, PA — B.S. Candidate May 2020

- *Major:* Physics. *Minor:* Mathematics.
- *GPA:* 3.85 / 4.00
- *Notable Coursework:* Linear Algebra, Multivariable Calculus, Data Structure, Quantum Physics, Particle Physics, Advanced Physics Lab, Photonic & Electromechanical Devices

WORK EXPERIENCE:

Research Assistant in Soft Matter – Haverford College Physics Department — May 2017 – Aug. 2018

- Developed unpowered, low-cost piezoelectric sensors embedded in cylindrical granular particles to measure the low-frequency acoustic emissions of the whole granular system under mechanical excitations.
- Designed and fabricated an analog amplifier on PCB that converts the current signals from the piezoelectric sensor to voltages with an adjustable gain and high common-mode noise rejection.
- Analyzed photoelastic force measurements by passing polarized lights through birefringent particles.

Research Assistant in Nanoscale Physics – Haverford College Physics Department — May 2019 – Present

- Developed PID controller for the humidity, temperature and laser regulating system using LabVIEW.
- Prepared porphyrin solutions for the deposition of $TPPS_4$ nanowires on silicon substrates and tested their conductivity by ramping voltages under different humidity levels.
- Troubleshooted and identified solutions for the undesired current readings of the experimental system

PROJECTS:

Microcomputer *A retro style computer built from the chip level* — Nov. 2019 – Present

- Utilized the microprocessor of an old Macintosh, a RAM, a clock chip, an I/O controller chip, etc. to build a microcomputer and play some simple video games by programming it.

Hongyoulin.com *My Jekyll-powered GitHub-Pages-based personal website* — Oct. 2019 – Present

- Adopted Yummy Jekyll to create an interactive personal website on GitHub Pages for people to learn about me.

Handheld EMP Generator *An educational gadget for the Intro to Electromagnetism course* — May 2017

- Utilized a voltage pulse generator to build an EMP that provides educational demonstrations of Maxwell's equations.

Checker Game Mock Projects — April 2018

- Implemented a new version of the classic Checker game with two-player & single-player-AI mode using Python.

Hangman Game Mock Projects — Aug 2015

- Implemented a new version of the classic Hangman game with an updatable lexicon using Java.

HONORS & AWARDS:

- University of Pennsylvania 4+1 Engineering Master Program (ESE) —To scholar whom holds excellent academic standing a direct admission to University of Pennsylvania ESE Master program after graduation.
- Patentee of *Wake-Up Headset*, Certificate of Utility Model Patent (CN ZL 2014 2 0263380.3), State Intellectual Property Office of PRC

SKILLS:

Laboratory Skills: Optical Microscopy, Atomic Force Microscopy, Spectroscopy, Laser Optics, PCB design
Frameworks: Eclipse, Mathematica, MATLAB, LabVIEW, EAGLE, AutoCAD, Origin
Computer Languages: Python, Java, C++, LaTeX