Leo **Ling**

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Education

Northwestern University — *Evanston, IL*

MAJOR IN **ELECTRICAL ENGINEERING (BS)**, MINOR IN **MATERIAL SCIENCE (BA)** — *March 2022 (anticipated)*

GPA : [3.80 / 4.00]

ETA KAPPA NU (HKN) — IEEE Honors society for Electrical Engineers of outstanding academic standing

RELEVANT COURSES — Electronic Materials, Electronic Sys. Design, Applied EM and Photonics, Signals and Systems

Northwestern University — *Evanston, IL*

ELECTRICAL ENGINEERING (MS) — *June 2022 (anticipated)*

Incoming Student

Professional Experience

Northwestern University: Hersam Research Group — *Evanston, IL*

UNDERGRADUATE RESEARCHER — *October 2018 - Now*

- Analyzed the mechanical and electronic properties of low-dimensional nanomaterials using AFM, Raman spectroscopy, ultraviolet-visible spectroscopy, and other such techniques
- Created image processing tool using MATLAB to accelerate dimensional measurement of atomic force microscopy images- reducing measurement times from half an hour to one or two minutes per image
- Developed Python TensorFlow simulations of physical neural networks to analyze performance of memristor crossbar arrays and to inform desirable device properties

Intel — *Hillsboro, OR*

SIGNAL INTEGRITY INTERN — *January 2020 - June 2020*

- Characterized high-speed interconnects, including bare packages and full system end-to-end, using RF measurement techniques such as TDR and VNA to troubleshoot signal integrity issues
- Probed single-ended and differential I/O interfaces (PCIe, DDR, USB) using microwave coplanar probes to characterize scattering parameters in data center products
- Programmed MATLAB apps to streamline the post-processing for the Delta-L transmission line de-embedding method and TDR measurements
- Constructed record keeping tool in Microsoft Power Apps and Sharepoint to facilitate tracking and analytics of day-to-day projects in the lab

Concurrency — *Chicago, IL*

CLOUD DATACENTER & DEVOPS INTERN — *June 2019- September 2019*

- Planned and templatized deployment of Microsoft Azure cloud infrastructure for common client architectures using ARM templates and Terraform
- Implemented PowerShell tools to create Terraform configuration files based on existing cloud infrastructure

Project Experience

NUSolar — *Evanston, IL*

SOFTWARE LEAD — *December 2018- Now*

- Developed and maintained CAN network communications between multiple custom devices (BMS, Motor Controllers, MPPT) on a solar car with custom C/C++ libraries
- Lead and taught programming workshops to other members about GIT, Python, CAN, and various commonly used technologies
- Fabricated custom Arduino Shield PCBs to interface between microcontroller and CAN controller via SPI

Skills

PROGRAMMING — MATLAB (GUIDE, RF Toolkit), Python (TensorFlow), VB, C/C++, GIT, Linux, Shell Scripting

ELECTRONICS — Soldering, Oscilloscope, EAGLE, TDR, VNA (AFR), RF Probing, PathWave ADS

MISC. — Microsoft Suite, Microsoft Power Apps, Microsoft Sharepoint, LaTeX