

# Sander (Lanbo) SHI

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## EDUCATION

### CARNEGIE MELLON UNIVERSITY

B.S. COMPUTER SCIENCE

MINOR IN MATHEMATICS

Class of 2019

## COURSEWORK

### COMPUTER SCIENCE

- Machine Learning\*
- Algorithm Design & Analysis\*
- Parallel Algorithms
- Computer Systems
- Computer Vision
- Functional Programming
- Theoretical Ideas in CS
- Imperative Programming
- Practical Ideas in CS

(\* : In progress)

### MATHEMATICS

- Concepts of Math
- Calculus in 3D
- Matrix Algebra
- Probability Theory

## SKILLS

### COMPUTER

Languages

- Python
- SML
- C/C++
- Matlab/Octave
- Javascript/Typescript

Web Development

- HTML5, CSS3 & SCSS
- Angular 2
- Meteor
- MongoDB

Tools

- Qt5, PyQt5
- $\text{\LaTeX}$
- Git
- Linux (avid Arch Linux user)

### NATURAL LANGUAGES

- English
- Mandarin

## WORK EXPERIENCE

### SCHÖDINGER | SOFTWARE ENGINEERING INTERN

May 2017 - August 2017 | New York, NY, USA

- Helped develop a multiple protein sequence viewer with Python and Qt5.
- Redesigned and reimplemented the synchronization between QtWidgets which reduced the code base by 10%.

### OPENCHIRP | RESEARCH ASSISTANT

January 2017 - May 2017 | Pittsburgh, PA, USA

- Developed the website and dashboard for an IoT device using Angular.
- Wrote code to send HTTP requests to and process responses from a REST API.

### TUXLAB | SOFTWARE ENGINEERING INTERN

May 2016 - August 2016 | Pittsburgh, PA, USA

- Developed a tool using Angular Meteor, that will be used to teach Linux based courses.
- Integrated a web terminal (tty.js) into the web app.

## PROJECTS

### CONVOLUTIONAL NEURAL NETWORK

Spring 2017 | Course Project | Computer Vision

- Implemented a convolutional neural network with the **LeNet** architecture.
- Achieved a **97%** training accuracy on handwritten digits.

### ALGORITHM COMPETITION

Spring 2017 | Team Project | Algorithms with a Purpose Competition

- Designed and implemented a searching algorithm to find resources in a 2D grid and return them back to base within a certain number of steps.
- **1st place for 4 out of 5 rounds.**

### CMU SUMMIT WEBSITE

Fall 2016 | CMU Club Website

- Designed and developed the club website of CMU Summit, which helped students browse and sign up for courses. (<https://www.cmu.edu/summit>)

### LOCAL WEATHER DATA COLLECTOR

Spring 2016 | Team Project | CMU Build-18

- Built a module using Photon boards and customized PCBs that collected weather data.
- Developed a website that drew the data from the Photon boards, and visualized it using Chartist.JS.

## EXTRACURRICULAR ACTIVITIES

**CMU Sahara** | 2017 - Present

Member of the CMU Sahara dance group. Participated in 3 dances for a **competition**.

**Music** | 2001 - Present

Have been playing the piano since 2001 and the guitar for two years.

**Public Forum Debate** | 2012 - 2015

Went to four debate tournaments around China, and won a quarter finalist prize along with two best speaker prizes.