Sander (Lanbo) SHI

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EDUCATION

CARNEGIE MELLON UNIVERSITY

B.S. Computer Science
Minor in Mathematics
Class of 2019

COURSEWORK

COMPUTER SCIENCE

- Computer Vision
- Machine Learning
- Algorithm Design & Analysis
- Data Science *
- Complexity Theory *
- Parallel Algorithms
- Computer Systems
- Theoretical Ideas in CS

MATHEMATICS

- Real Analysis *
- Calculus in 3D
- Matrix Algebra
- Discrete Math
- Probability Theory

(* : In progress)

SKILLS

COMPUTER

Languages

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

Web Development

- HTML5, CSS3 & SCSS
- Angular
- Meteor

Tools

- Qt5, PyQt5
- LaTeX
- Git
- Linux (avid **Arch Linux** user)

NATURAL LANGUAGES

- English
- Mandarin

WORK EXPERIENCE

SCHRÖDINGER | 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 | Software Engineering Intern

January 2017 - Present | 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.
- Will be integrating a map into the webapp that displays live locations of devices.

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

DEEP NEURAL NETWORK PARTITIONING

Spring 2018 | Research Project | Machine Learning

- Finding methods to partition deep neural networks across devices to lower energy consumption.

HANDWRITTEN DIGIT CLASSIFIER

Spring 2017 | Course Project | Computer Vision

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

GRIDWORLD RESOURCE COLLECTION AGENT

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)

EXTRACURRICULAR ACTIVITIES

CMU Sahara | 2017 - Present
Member of the CMU Sahara dance group. Participated in multiple competitions.
Music | 2001 - Present
Play, compose and improvise on the piano with classical and Jazz music.
Public Forum Debate | 2012 - 2015
Went to four debate tournaments, won a quarter finalist prize and two best speaker prizes.