

# Joan Shaho

Philadelphia, PA 19115 | [jshaho@seas.upenn.edu](mailto:jshaho@seas.upenn.edu) | 267-945-9735 |

GitHub: <https://github.com/JoanShaho> | LinkedIn: <https://www.linkedin.com/in/joan-shaho/>

## EDUCATION

**University of Pennsylvania, School of Engineering & Applied Science, Philadelphia, PA**

*May 2021*

- Bachelor of Science in Engineering, majoring in Computer Science
- GPA: 3.81 out of 4.00

## TECHNICAL SKILLS

- Programming Languages: Java (advanced), Python (intermediate), Javascript, HTML, and CSS (intermediate)
- Experience with Hadoop MapReduce, AJAX, Node.js/Express, Bootstrap, jQuery
- Linux: Experience using BASH and specifically Git

## PROJECTS

### Java

- Genetic Algorithm Independent project. Constructed car racing simulation where each car's moves are controlled by Neural Network with goal of reaching the finish line through series of evolving generations:
  - Implemented genetic algorithm
  - Enhanced object-oriented programming, debugging abilities, and unit testing
  - Successfully trained cars to finish the track in 2nd or 3rd generation

### Python

- Anki Cozmo Independent Sign Language project. Built program for saving pictures taken by Cozmo and using them to train Convolutional Neural Network, which is then used to guess sign corresponding to hand gestures shown to Cozmo.
  - Created fully functional program that trains model and saves it through Python File I/O
  - Used approximately 26,000 hand sign pictures
  - Achieved 70% accuracy using Neural Network through Tensorflow and keras

### Javascript, HTML, CSS

- *Scalable Cloud Computing course final social website project*: [www.fudbooks.com](http://www.fudbooks.com)
  - Participated in a 3-member group with goal of creating a scalable social media application on Node.js.
  - AWS tables for storage, front-end display with HTTP communication, and mapreduce backend for friend recommendation.
  - Coded the front-end and DynamoDB table setup portion of project
    - Designed website's front-end using jQuery, Node.js, AJAX, and HTTP communication with strong attention to detail
    - Developed the bootstrap portion of most pages of the website using CSS and HTML
    - Implemented security protection through cryptographic hashing of sensitive information like username and password
      - Established protection against injection attacks through whitelisting user inputs

## WORK EXPERIENCE

**University of Pennsylvania, Department of Astronomy, Philadelphia, PA**

*June 2019 - August 2019*

Summer Research Assistant

- Automated process by which pre-built Convolutional Neural Network (CNN) predicted Radio Frequency Interference (RFI) on given set of astronomical visibility data collected by antennas. Data base consisted of more than 80,000 data collected by radio antennas.
- Held weekly meetings with team of 4 people to communicate progress
- Programmed fully functional automation pipeline of image processing, analysis, and CNN prediction storage.

## RELEVANT COURSEWORK

- *Introduction to Algorithms (Spring 2020)*: Will gain experience in advanced analysis techniques such as dynamic programming and amortized analysis; graph algorithms such as minimum spanning trees and network flows; approximation algorithms and data structures
- *Programming Languages and Techniques (Fall 2019)*: Learned basics of data structured, algorithm complexity analysis, graph and recursive algorithms, and hashing

## LEADERSHIP ACTIVITIES

**Access Engineering, Philadelphia, PA**

*October 2018 - Present*

- Taught 20-member groups of high-school students regarding different engineering topics, through examples and exercises
- Identified various ways to effectively communicate and help others

**ADAPT, Philadelphia PA**

*October 2018 - Present*

- Currently participating in 7-person team with goal to build hand-exoskeleton for rehabilitation of stroke patients.
- Collaborated as part of marketing research team and as an executive board member, Software Design Chair
  - Cooperated with team members through weekly meetings focusing on product research, design, and testing.
  - Created early hand-exoskeleton model using Arduino and improved understanding of Software Development Life Cycle.

**IEEE-HKN Lambda Chapter**

*February 2018 – Present*

- Participated in informational events regarding future career possibilities.