Helena Abney-McPeek

Education

Harvard College, Cambridge MA

Fall 2018 - present

Computer Science major, Honors Track

Expected graduation date: June 2022

Cumulative GPA: 3.4

The University of Chicago, Chicago IL

Summer 2016 - Spring 2018

Undergraduate coursework while in high school

Cumulative GPA: 3.8

Internships

The University of Chicago

Center for Data and Computing

Summer Research Internship

June-August 2019

* Project: "Physical Backdoors in Neural Networks" with Prof. Ben Zhao
* Detection of backdoor attacks on deep neural networks for image classification (Python programming, TensorFlow)

The University of Chicago

Center for Spatial Data Science

Computation Institute Research Internship

June-August 2018

* Project: "Spatial analysis of oral cancer incidence in Illinois" with Dr. Marynia Kolak
* Geo-spatial data mapping in R, excess risk calculation, health disparities analysis

The University of Chicago

The Knowledge Lab/Computation Institute

Summer Link Research Internship

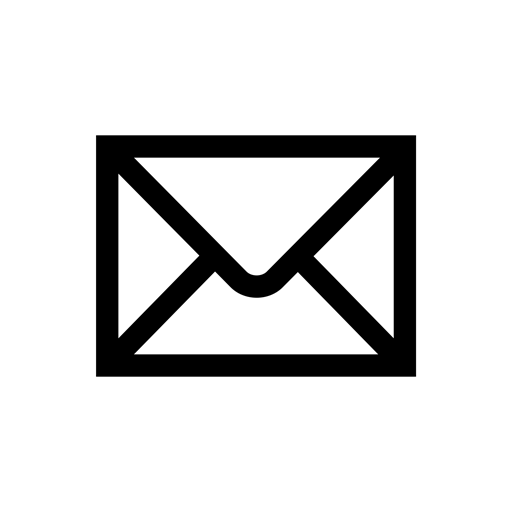
June-August 2017

* Project: "The effect of scientists' social networks on experimental findings: A case-study in psychology" with Dr. Valentin Danchev and Dr. Molly Lewis
* Constructed and analyzed social networks for a meta analysis
* Python programming and statistical analyses

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College Coursework

**Computer Science**

Intro to Computer Science II

Intro to Theoretical Computer Science Abstraction and Design in Computation

Systems Programming & Machine Organization

Computer Networks

Programming Languages

**Math**

Honors Calculus I-II-III

Abstract Linear Algebra

Analysis in Rn I

Applied Linear Algebra and Big Data

Vector Calculus and Linear Algebra II

**Statistics**

Statistical Methods and Applications

Intro to Probability

Skills

Python (including TensorFlow), C/C++, R, Java, Matlab, LaTeX, HTML, CSS, Git, Javascript, SVN, Arduino, OCaml

Other Recent Projects

* Used machine learning methods to build a detector of malicious websites and analyzed detection results (Python programming, TensorFlow, data analysis) 2019
* Programmed a shell and an operating system (C++ programming) 2019
* Built a machine learning movie recommender using neural networks (Python, TensorFlow) 2019
* Programmed a computer system from the ground up: programmed logic gates, an assembler, a compiler, etc. 2018
* Computer orchestra: designed and programmed digital instruments, composed, performed with ensemble 2018