

SEAN HARRIS

EDUCATION

B.A. Computer Science, B.A. Philosophy

Columbia University, May 2021

Dean's List, Four Semesters

Relevant Coursework:

- Machine Learning (Supervised & Unsupervised)
- Natural Language Processing
- Applied Deep Learning
- Applied Data Science

PROJECTS

Novel Disease Detection in Iowa Agriculture

(Sep – Nov 2021)

- Detects poorly understood fungus threatening corn production in field photography using SciPy and OpenCV.

LIGO Signal Denoiser

(Sep – Oct 2021)

- Detects subtle signals of black hole mergers using signal processing and deep learning. Achieved .85 AUC.

Medical Imaging Assistant

(May – Aug 2021)

- Highlights cancerous tissue in gigapixel medical images. Designed custom data-pipeline to train model on 125 GB of data. Achieved .90 pixel-level AUC and near 100% whole-tumor detection.

NYC Outdoor Activities App

(Feb – Mar 2021)

- App to visualize COVID spread and locate safe outdoor areas. Led group effort and deployed in-browser.

Recovery of Hidden Neural Net from Output

(Dec 2020)

- Infers network weights using correlations in the output of random neural nets. Implementation of theoretical paper by Arora et al.

SKILLS

Programming Languages

- **Python**: 3 Years of experience, multiple machine learning projects.
- Familiarity with **R**, **SQL**, **C++**, and **Java**.

Packages: TensorFlow, PyTorch, NumPy, SciPy, Pandas, Scikit-learn, and R Shiny.

Tools: SageMaker, PyCharm, Jupyter, R Studio, and LaTeX.

EXPERIENCE AND INTERESTS

Staff Writer, Columbia Science Review

(Sep 2017 – May 2020)

- Wrote front page stories on science and technology for Columbia's science review; edited and researched for other writers' articles.

Farmhand, Ailes Detasseling

(May 2014 – Aug 2016)

- Summer fieldwork; pollination control in Monsanto fields; helped train employees.

Interests

- Ethical AI; open source; history; chess; cooking; meditation; maps and visualization.