Jonathan Yin

First-year Student at Yale University

jonathan.yin@yale.edu | jonathanyin12 | jonathan-yin | jonathanyin.me

Education

Yale University

Sept. 2020 - Present

B.S. in Computer Science and Statistics & Data Science, Class of 2024

- Relevant courses: Artificial Intelligence (CPSC 470), Systems Programming (CPSC 323), Data Structures (CPSC 223), Vector Calculus and Linear Algebra (MATH 230/231)
- Activities: Yale Computer Society Development Team, Yale Machine Learning, YHack Logistics Team

Acton-Boxborough Regional High School

Sept. 2016 - Jun. 2020

salutatorian, Weighted GPA: 4.8/5.0, class of 2020

- Activities: Science Olympiad Captain, MAHacks V Organizer of Venue & Logistics, ACLS Competition Math Club TA

Experience

Broad Institute of MIT and Harvard - Regev Lab

Jan. 2019 - Present

Computational Biology Researcher

- Worked on improving GPCR binding prediction with compressed sensing, Bayesian methods, and machine learning
- Processed, visualized, and analyzed various data e.g. receptor-ligand binding affinities and RNA-sequencing data
- Developed novel deep learning architecture to create more accurate latent molecular representations

Beagle Learning

Jul. 2020 - Aug. 2020

Software Engineering Intern

- Developed front-end platform in React, Redux, JavaScript, HTML and CSS
- Worked in an agile environment with daily product stand-ups and pair programming sessions

Research

A Multi-view Generative Model for Molecular Representation Improves Prediction Tasks

Mentor: Dr. Hattie Chung (Broad Institute)

- Combined multi-view representation learning with VAEs to improve latent molecular representations (paper)
- Presented at 2020 NeurIPS workshop, Learning Meaningful Representations of Life (talk)

Projects

Food.AI (github.com/jonathanyin12/Food.AI)

hackathon project

- Enables simple calorie tracking on mobile devices using real-time object detection for various food classes
- Utilizes a MobileNetV2 SSD architecture trained with transfer learning on the Open Images v4 dataset

PokémonGAN (github.com/jonathanyin12/PokemonGAN)

personal project

- Generative adversarial network that synthesizes novel Pokémon from random latent noise
- Implemented in Keras using a modified DCGAN architecture

Flappy.ML (github.com/jonathanyin12/Flappy.ML)

personal project

- Genetic algorithm-based reinforcement learning project that beats Flappy Bird
- Algorithms implemented from scratch and used the Processing library for visuals

Honors & Awards

Learning Meaningful Representations of Life - Invited to present research at the 2020 NeurIPS workshop *Dec. 2020*

3x American Invitational Math Exam Qualifier - highest score of 7 (top 0.5% of all testers) *Mar. 2018 - 2020*

USA Computing Olympiad - Gold Division (penultimate division; out of 7,500 participants) *Jan. 2019*