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, GPA: 4.0/4.0

- 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, GPA: 4.0/4.0

- 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 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*