Billy Zhong

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Education

Yale University — *Computer Science (B.S.) and Mathematics (B.A.)* 2018–Present

Expected Graduation: May 2022

CPSC 223 — Data Structures
CPSC 323 — Introduction to Systems
CPSC 338 — Digital Systems
CPSC 366 — Intensive Algorithms
CPSC 460 — Automata Theory
CPSC 468 — Computational Complexity
CPSC 465 — Theory of Distributed Systems
CPSC 475 — Computer Vision
CPSC 476 — Advanced Computer Vision
CPSC 470 — Artificial Intelligence
CPSC 452 — Deep Learning
PHIL 267 — Mathematical Logic
PHIL 427 — Computability and Logic
ECON 351 — Mathematical Game Theory
MATH 230 — Vector Calculus and Linear Algebra
MATH 244 — Discrete Mathematics
MATH 270 — Set Theory
MATH 305 — Real Analysis
MATH 310 — Complex Analysis
MATH 350 — Abstract Algebra
MATH 354 — Number Theory

Work

Twitter — *Software Engineering Intern* 2021

Designed and implemented a retry pipeline and dead letter queue for failed events using Java and Kafka
Increased revenue recovery and data accuracy and removed dependency on unreliable external services

Yale University (Professor Sun-Joo Shin) — *Research Assistant* 2020–2021

Prepared case studies concerning different forms of heterogenous systems of logic to study and characterize the nature of diagrammatic reasoning

DeepMap — *Computer Vision Intern* 2019

Designed algorithms and benchmarks for lane line feature detection in satellite road images
Achieved 90% correctness, as measured by benchmarks

Zingbox — *Software Intern* 2017

Programmed a test suite for Web user interface using Python and Selenium
Created database query interface for Splunk

Projects

Chinese Study Tool 2019

Programmed a computer vision application to recognize Chinese characters within PDF images and annotate them within the PDF with their translations
Explored object localization neural networks in contrast to traditional computer vision techniques

Bartending Robot 2019

Designed and constructed a small, portable robot that makes beverages to-order through both physical and web interfaces
Presented in Digital Systems class as an embedded system for final project

Dynosaur 2016-2018

Researched optimization techniques to teach a bot to play the Google Dinosaur Runner Game and designed an interactive web dashboard to monitor the bot as it learns
Achieved performance 2x better than a human player within several hours of training

Awards

FBLA State Leadership Conference ..... 4th Place, Network Design 2016
USA Computing Olympiad ..... Gold Division 2016
VEX World Championships ..... Judges' Award, Arts Division 2015
HSHacks ..... Top 3, Hardware Hacks 2014

Skills

Python, C/C++, Java, Javascript, OpenCV, LAMP, MEAN, Kafka, Aurora, Git, Bash, Pytorch, Tensorflow, LaTeX