Jonathan Hsieh

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EDUCATION

NORTHEASTERN UNIVERSITY
B.S. in Computer Science + Math
Minor in Biochemistry
Sept 2020 - May 2024 | Boston, MA
Khoury College of Computer Sciences
GPA: 3.92 / 4.0

• VP and Contest Director for the Competitive Programming Club

COURSEWORK

UNDERGRADUATE
Algorithms & Data
Object Oriented Design
Logic & Computation
Discrete Structures
Software Development
Reinforcement Learning
Complexity Theory
Statistics and Stochastic Processes

SKILLS

LANGUAGES
Java • Python • Javascript • C • C++ • Racket • C# • SQL • HTML • CSS

TECHNOLOGIES
Git • React.js • Vue.js • Node.js • Express • Keras • Tensorflow • numpy • matplotlib • pandas • Firebase • Angular • .NET • Tableau • MongoDB • Django • Docker

AWARDS

RESEARCH
1st Place at Greater San Diego Science Fair for Computer Science – Special Award from IEEE

COMPETITION
•2021 ICPC World Finalist
•USACO Platinum (Top 200)
•1st Place Grand Prize Winner at Stanford Programming Competition
•5th place at ICPC Northeast Regional Qualifer •20th and 30th place at the ICPC North American Championship

INTERESTS

Graph Theory • Combinatorics • Badminton • Volleyball • Card Games

EXPERIENCE

Software Developer (Python) | Akuna Capital
Jun 2023 – Aug 2023 | Chicago, IL

Research Assistant | MIT
Dec 2021 – Aug 2022 | Boston, MA
- Worked under Florian Berg at the Aggregate Confusion Project
- Special thanks in *Aggregate Confusion: The Divergence of ESG Ratings* – one of the top economics papers of 2021

Teaching Assistant | Northeastern University
Sept 2020 – Dec 2021 | Boston, MA
- Led office hours each week to help students and grade problem sets
- Covered dynamic programming, graph theory, divide and conquer, and complexity theory

Turing Instructor | San Diego Math Circle
Sept 2016 – May 2020 | San Diego, CA
- Taught over 100 high-school students concepts in algorithms and problem solving
- Wrote and graded challenging problem-sets on topics relating to competitive programming and theoretical computer science.

PROJECTS

Junqi | January 2022 | github
- Created using Model-View-Controller and other design patterns for extensible, maintainable code.
- Used MERN stack with Socket.io for real-time communication with client to play the Chinese board game Junqi.

WoodokuSolver | December 2022 |
- Built using TDD principles and implemented Monte-Carlo Tree Search
- Found near-optimal strategy and tested well against other RL agents

Clash Analyzer | July 2020
- Utilized React and REST API to retrieve data about opponents in League of Legends Tournaments
- Formed beautiful visualizations for easy and quick interpretation with Chart.js

Blood Glucose Prediction with RNNs | December 2019
- Used Recurrent Neural Networks to form a model of how blood glucose fluctuates in T1 Diabetes patients.
- Patented algorithm and published paper in the Diabetes Journal of Technology

Cent | September 2019 | website | github
- Formed a model of expenses and costs between groups of friends
- Used .NET API linked to a SQL server database in the backend and Angular for the frontend.

Boolean Implication Network Visualizer | July 2019
- Visualized connections between genes after Boolean analysis for the UCSD Boolean Lab
- Used Python to process connections between thousands of genes