JACOB HOFFMAN

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Portfolio Website - https://jacobhoffman.tk

FORMER EDUCATION / COURSEWORK

- Student at Carnegie Mellon University.
- Teaching Assistant at Carnegie Mellon University.
- B.S. In ECE | May 2020
- M.S. In ECE | May 2022
- Dean's List Spring 2018

(18-461/661) Intro to Machine Learning For ECE (Graduate)
(15-410) Operating System Design And Implementation
(15-351) Algorithms and Advanced Data Structures
(18-491) Digital Signal Processing
(18-370) Fundamentals Of Control

WORK

- **CMU Dept. Of ECE | Teaching Assistant For (Graduate) Introduction To Machine Learning | Spring 2020**
  Taught graduate students fundamental machine learning techniques such as Linear Regression, Naïve Bayes, Logistic Regression, Multiclass Classification, SVMs, Nearest Neighbors, Decision Trees, Ensemble Methods, Neural Networks, Clustering, PCA, Online Learning, and Reinforcement Learning.

- **CMU Dept. Of ECE | Theoretical Machine Learning Researcher | Spring 2020**
  Implemented various machine learning methods to classify children's stages of sleep, as well as detect health anomalies given recorded brain waves and vitals using a medical dataset in which CMU has exclusive access to.

- **General Motors | Embedded Controls Intern | Stability Of Vehicle | Summer of 2019**
  Applied control theory concepts to design a brake system for a trailer. The system included ABS and ESC safety features. The system detected instability of a trailer in real time and dampened trailer sway by engaging the brakes.

- **CMU Dept. Of ECE | Signal Processing Researcher | Ultrasonic Positioning Systems | Summer of 2018**
  Worked on close range ultrasonic positioning systems for blind person navigation. Chirps, STFTs, and FFTs are some of the DSP concepts used to implement the system.

- **CMU ISR | Software/Data Researcher | Repository Bug Data Analysis | Summer of 2017**
  Data mined repository contributor bugs and inserted this data into MySQL databases. Performed statistical analysis on the data to determine coding practices that result in projects with harder to resolve bugs.

SKILLS

- Python | MATLAB | C | C# | Java | MySQL | JS | PHP | AWS | Docker | Kubernetes | Heroku | NetLogo | Scheme

PROJECTS

- **Uncommon Core** is a differentiated learning platform providing a pencil on paper/tablet math curriculum for students, all materials graded via. machine learning. Students progression is guided via. reinforcement learning.

- **Greenstar Financial** is a software package that runs statistical models on streams of financial asset data, and generates neatly formatted reports for wealth managers.

TRACK AND FIELD ACHIEVEMENTS

- Ran the 46th fastest indoor 300m time of 2016 in the U.S.A (35.16 Fully Automatic Time, Stuyvesant Grey Ducks)

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