JACOB HOFFMAN

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Portfolio Website - https://jacobhoffman.tk

EDUCATION / COURSEWORK

- Student at Carnegie Mellon University.
- Teaching Assistant at Carnegie Mellon University.
- B.S. In ECE | May 2020
- M.S. In ECE | May 2021
- 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 | (Graduate) Introduction To Machine Learning Teaching Assistant | 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.

- **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 the sway of a trailer in real time and dampened sway oscillations by engaging the brakes appropriately. This will prevent trailer accidents and save lives.

- **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 | React | AWS | Azure | Heroku | NetLogo | Scheme

PROJECTS

- **Founder of Common Core Free By Robust Innovations Inc.**
  Partnered with Professor David Kosbie (CS) and Professor Mark Stehlik (CS) Common Core Free is a free to use educational software providing printable personally leveled math programming for students. Teachers print materials for a whole class with one click. After the teacher inputs grades, Our software uses reinforcement learning to determine the optimal level for each individual student, as well as the optimal rate to progress each individual student.

- **Founder of DD-LA**
  Partnered with Professor Sue Mei Wu (President Of The National Chinese Language Teaching Association). DD-LA is an educational software that introduces students to Chinese language through music. DD-LA uses speech recognition technologies to sync song lyrics with music in our library. Our system allows students to learn Chinese in a unique easily digestible way.

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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