

Abraham (AJ) Druck

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EDUCATION

Carnegie Mellon University, Pittsburgh, PA

May 2021

BS in Mathematical Sciences; Concentration in Operations Research and Statistics

Minor in Computer Science

GPA: 3.71

RESEARCH EXPERIENCE

Computer Human Interaction: Mobile Privacy Security Lab, Carnegie Mellon University

January 2020 – May 2020

Credited Undergraduate Research Assistant under Dr. Jason Hong

- Tested various machine learning models to caption images.
- Ran a user study on Amazon MTurk to find common errors and analyzed and parsed the resulting data.
- Integrated results into online platform to enable researchers to identify common model mistakes.

“Intersection Between Estimation and Optimization”, Carnegie Mellon University

May 2019 – August 2019

Funded Undergraduate Research Assistant under Dr. Gérard Cornuéjols

- Focused on whether certain estimators of general data were admissible, including the MLE and James Stein Shrinkage estimator.
- Tested various loss functions and assumptions on the distribution of data.

CODING/DEVELOPER EXPERIENCE

Application Developer Intern at Morgan Stanley

June 2020 – August 2020

- I worked with various machine learning models and techniques for sentence similarity such as Word2Vec and TF-IDF.
- I scraped text from the web to gather more training data.
- I integrated the models into a conversational chatbot on Skype for business to help with problem resolution.

Teaching Assistant for Course # 15-281: Artificial Intelligence, Representation and Problem Solving

August 2020 – Present

- Teaching assistant competitively chosen for an introductory AI class taught in Python.
- It is my responsibility to hold weekly office hours and recitation, as well as grade homework and exams.
- The course covers topics such as Bayes nets sampling, Q-learning, and other topics relevant to the field.

Full Stack Developer for Project: Exam-Optimum, Mellon College of Science

June 2019 - Present

- Optimized scheduling by reducing exam date conflicts based on student enrollment.
- Widely used within the Mellon College of Science and expanding to other colleges.
- Developed in Python using a Flask framework and SQL-Lite to communicate with servers.

Teaching Assistant for Course # 15-112: Fundamentals of Programming

September 2018 – December 2019

- Teaching assistant competitively chosen for an introductory coding class taught in Python.
- My tasks included a weekly recitation of ~31 students, review sessions, weekly office hours, and reaching out to struggling students.

LEADERSHIP EXPERIENCE

Freshman Orientation Counselor

August 2019

- I helped ease the transition for incoming students, making sure they were comfortable in their new environment.

Honors and Awards

Dean's List (For GPA above 3.5)

December 2017, May 2018, December 2018, May 2019, December 2019

SKILLS

Programming Skills: C, Python, R, SML, HTML/CSS, Latex, Git Version Control.

Languages: Fluent in English. Fluency in Hebrew. Limited Working Proficiency in Spanish.

Selected Coursework

Intro to Machine Learning (Python), Artificial Intelligence (Python), Natural Language Processing (Python),

Advanced Data Analysis (R), Linear Algebra, Discrete Math, Differential Equations

Intro to Systems Programming (C), Intro to Functional Programming (SML), Parallel/Seq Data Structs/Algos (SML)