Harrison Zhu

Atlanta, GA

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Education

Georgia Institute of Technology *Atlanta, GA*

CANDIDATE: B.S. IN COMPUTER SCIENCE *August 2019 - May 2023*

- Relevant Coursework: Data Structures and Algorithms, Machine Learning, Intro to AI, Objects and Design, Object-Oriented Programming
- **GPA: 4.0**, Faculty Honors for 2 semesters.

Skills

Programming Languages	Java (proficient), Python (proficient), CSS (intermediate), HTML (intermediate), JavaScript (basic)
Technologies	Git (intermediate), LaTeX (intermediate), fastai/PyTorch (intermediate), Jupyter Notebooks (intermediate)

Experience

Ultimate Software *Atlanta, GA*

SOFTWARE ENGINEERING INTERN *May 2020 - August 2020*

- **Internship offer accepted, but deferred due to the COVID-19 pandemic.**

Georgia Institute of Technology *Atlanta, GA*

UNDERGRADUATE TEACHING ASSISTANT: CS 1332 (DATA STRUCTURES AND ALGORITHMS) *May 2020 - Present*

- Ensured success, graded assignments, and assisted the instruction of ∼600 students in collaboration with a large team of 29 teaching assistants and 2 professors.
- Coordinated bi-weekly office hours and answered questions concerning course content, projects, and exams.
- Managed weekly recitation sessions and lectures and answered student questions.
- Collaborated w/ teaching assistant staff to create shared recitation, homework grading, and assignment guides.

Projects

Data Structures and Algorithms Visualization Tool *September 2020*

- Contributed to the open-source CS 1332 visualization tool GitHub repository.
- Fixed faulty algorithm definitions by translating course notes into JavaScript code.
- Worked within the React library and used the University of San Francisco's animation API to implement functioning operation visualizations.

String Instrument Image Classification *July 2020*

- Used the fastai library on top of PyTorch to program and design a machine learning model that distinguished between instrument images (specifically between violins and cellos).
- Adapted, tuned, and exported the ResNet-34 convolutional neural network for use in transfer learning between the ImageNet dataset and the custom instrument dataset.
- Modified HTML, CSS, and JavaScript code in order to deploy the image classification model as a web app using Render.
- Built model as an illustrative introduction to deep neural nets, dataset construction, and web deployment.

Cover Type Prediction *October 2019*

- Used the scikit-learn, pandas, and numpy libraries to predict and analyze the type of tree in a forest given a list of over 50 attributes.
- Visualized and discovered patterns and clusters within the dataset using the Seaborn library.
- Adapted a Random Forest model in order to classify cover types in forests.

Honors & Awards

2020 **CS2340 Top Scorer**, Scored the highest out of 104 students in **CS2340** (Objects and Design) *Atlanta, GA*

2019 **Finalist**, National Merit Scholar - Southern Company Scholarship *Atlanta, GA*