Kathy Wang

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Education

Rice University, Master of Computer Science
Aug 2021-Dec 2022

GPA: 3.81

Courses: Machine Learning, Deep Learning for Vision and Language, Ethics in AI, Big Data Management, Statistics in Data Science, Genome-Scale Algorithms and Data Structures, Probabilistic Algorithms, Data Science Projects, Functional Programming

University of Texas at Austin, Bachelor of Science and Arts Biology
Aug 2016-Dec 2020

GPA: 3.7653

Certificates: Elements of Computing, Pre-Health Professions

Courses: Web Programming, Software Design, Databases, Data Visualization, Multivariate Calculus, Linear Algebra, Bioinformatics, Microbiology, Social Demography, Digital Media Production, Clinical Psychology, Cultural Anthropology

Skills

Programming Languages and OS: Python, Java, C, SQL, R, Racket, HTML, CSS, PHP, JavaScript, Linux, Git, VS Code

Data Science: Machine Learning, Deep Learning, NLP, Neural Networks, Numpy, Pandas, Pytorch, TensorFlow, ArcGIS

Databases: MySQL, MongoDB, Neo4j, Firestore, AWS, Hadoop, Spark, BigQuery, GCP

Digital Art, Design, Communication: Tableau, Adobe Photoshop, After Effects, Illustrator, Microsoft Office

Projects | https://kathyJW.github.io/projects/

Machine Learning and Deep Learning

- Constructed a Social Vulnerability Index (SVI) for Harris County, Texas with a team as part of a sponsored project with BakerRipley. SVI for each census tract was calculated using autoencoders to reduce numerous socioeconomic and demographic variables into a single index value indicating the vulnerability. Dashboard tool was made to visualize the most vulnerable regions that needed more resources.
- Built neural network models to predict whether a person had heart disease based on survey responses obtained by the Behavioral Risk Factor Surveillance System (BRFSS). Focused on reducing the bias of available data and balancing it through K-nearest neighbor methods and adjusting class weights.
- Worked with partner to create a Convolutional Neural Network (CNN) encoder, Long Short-Term Memory (LSTM) decoder, and Attention model that predicted book titles based on their image covers. Idea was based on image captioning, but with book titles instead of descriptive sentences.

Data Analysis

- Data analysis of COVID-19 impact on Austin Animal Shelter adoptions by exploring the shelter data using R.
- Investigated flight delay data from the Bureau of Transportation with storm event data from National Oceanic and Atmospheric Administration using Google Cloud Project, BigQuery, Apache Beam, and SQL. Created database model and cleaned raw data to use in queries to find relations of interest.

Data Visualization

- Team project to visualize volcanic eruptions around the world. Used Python and Altair to create interactive map and legend.

Web Programming

- Worked with a team to create a flight booking site that allowed the user to book flights by origin and destination. Implemented HTML, CSS, AJAX, PHP, JavaScript, and MySQLi to create an appealing front-end and back-end that could access a SQL server.

Work Experience

Computational Biology Intern at Macromoltek   Aug 2022-Dec 2022

- Identified epitopes for antigens by analyzing molecules in PyMOL.
- Helped run Python pipeline to process mapped epitopes for aligning candidate antibody chains.

Pharmacy Technician at H-E-B Pharmacy   Sep 2018-Sep 2019

- Worked with team to provide healthcare and medication to community in retail setting.
- Problem Solving: resolved health insurance issues and medication filling mistakes
- Customer Service: communicated with customers and informed them of medication and their fillings
- Health Screenings: helped conduct free and paid health screenings checking glucose and cholesterol levels of patients using monitors provided by H-E-B and collecting blood samples
- Adapted to different environments: worked at multiple H-E-B locations with different team members and learned to adapt to workflow and communicate

Leadership and Service

Chair in STEAM committee of Lions Club International at UT Austin chapter   2016-2017

- Learned to work in a committee, solve problems, and engage and inspire members to help others.
- Introduced children to art, science, and engineering fields.
- Helped in local Austin clean-up projects, animal shelters, food drives, and community gardens. Provided food and interacted with the homeless directly.
- Total of 160 Service Hours completed 2016-2017

Officer of Collaborative Artists   2017-2020

- 2017-2018 Treasurer, 2019 Secretary, 2019-2020 President
- Maintained bank account and funds for social art club and events.
- Collaborated with other officers to plan and host weekly meetings and socials.

Member of Longhorn Pre-Pharmacy Association   2016-2019

- Introduced in depth to pharmacy field through workshops.
- Volunteered at events around community and UT pharmacy school events.

Cultural Interests Association Member   2017-2019

- Informed of different world cultures by speakers at bi-monthly meetings.