WILLIAM SU

Cell Phone: (704)-724-8971
Email: sujinjian@gmail.com

Education

The University of North Carolina Chapel Hill, Chapel Hill, NC *8/2020 – 5/2024*

Doctoral Student at the School of Information Science (Machine Learning)

Relevant courses: Data Mining, Data Visualization, Reinforcement Learning, Deep Learning, Generative Modeling, Information Visualization, Statistical Consulting, Virtual Reality Design

The University of North Carolina Chapel Hill, Chapel Hill, NC *8/2016 - 5/2020*

B.S in Statistics and Operations Research

Minor in Computer Science

Work Experience

Visual Analytics and Communication Lab, Chapel Hill, NC *9/2020 - Present*

Graduate Research Assistant

- Demonstrated 72% of data analysts in user study lacked knowledge of their dataset's bias by developing an interactive dashboard that showed selection bias across datasets of differing formats
- Developed data loaders capable of handling hierarchical data; processed data of different formats, extrapolated missing values, extracted new data columns from SQL server and combined multiple data files

Global Atlantic Financial Group, New York, NY *6/2019 - 8/2019*

Machine Learning Risk Intern

- Discovered over 2,000 erroneous interest rates while performing exploratory data analysis on investment data
- Saved $1.2 million in payouts by training and deploying regression models to detect erroneous interest rates
- Prototyped random forest and neural net models to catch future erroneous interest rates

Duke Energy Renewables, Charlotte, NC *6/2018 - 8/2018*

Data Scientist Intern

- Increased solar farm profit margins by 4% by performing multiple regression analysis on company contracts
- Acquired 2 new solar farm contracts by analyzing market trends of solar module prices; constructed learning curves and models to predict future pricing
- Developed an online survey system which resulted in a 26% increase in customer satisfaction

Research Project

Bias Mitigation in AI/Machine Learning *9/2020 – 1/2022*

- Research into fairness accuracy tradeoff in machine learning bias mitigation algorithms; Results suggested fairness accuracy tradeoff is not as severe as conventional wisdom and previous research suggests; Concluded that it is potentially always beneficial to apply a bias mitigation algorithm to machine learning models.
- Focused on group fairness metrics in logistic regression classifiers
- Utilized various bias mitigation algorithms: Reweighting, Disparate Impact Remover, Prejudice Remover, pre-process, in-process and post-process techniques
- Experimented on the impact of data distribution on the fairness and accuracy of machine learning algorithms

Publications

William Su, Yue Wang, and David Gotz. 2022. Is There a Fairness/Accuracy Tradeoff? An Empirical Study of Algorithmic Bias Mitigation. *Under Review*

Technical Skills

- Proficient in Python, Java, R, JavaScript, HTML, CSS, SQL
- Extensive work using Python's NumPy, Pandas, Scikit-learn, TensorFlow, PyTorch, Keras, MXNet, and AIF360 packages