Taylor Jacket

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EDUCATION

Georgia Institute of Technology, Atlanta, GA   Expected Graduation: Aug. 2025
Ph.D. in Computer Science (GPA: 4.0/4.0)
- **Dissertation**: Optimizing Time Series Forecasting and Unstructured Data Analysis with Advanced Machine Learning and NLP Techniques for Scalable Decision-Making Systems
- **Selected awards**: NSF Graduate Research Fellowship, NSF (2021 - 2024)

University of California, Berkeley, Berkeley, CA   May 2020
B.S. in Computer Science (GPA: 3.9/4.0)

TECHNICAL SKILLS

- **Programming**: Python, R, SQL, Java, MATLAB
- **Data Tools**: TensorFlow, PyTorch, Scikit-learn, Pandas, Tableau
- **Big Data**: Spark, Hadoop, AWS (S3, EC2), Databricks
- **Techniques**: Machine Learning, Statistical Modeling, Data Visualization, Natural Language Processing (NLP), Time Series Analysis

MACHINE LEARNING RESEARCH EXPERIENCE

Georgia Institute of Technology, Atlanta, GA   Aug. 2020 - Present
Graduate Research Assistant, Jacket Job Lab
- Develop a novel machine learning algorithm for time series prediction, improving forecasting accuracy by 25% in large-scale financial datasets.
- Perform exploratory data analysis (EDA) and feature engineering on datasets with over 10 million records to identify key drivers of system performance.
- Apply advanced natural language processing techniques to analyze unstructured text data, resulting in a 30% increase in classification accuracy.
- Publish 4 peer-reviewed papers in leading journals and present findings at 5 conferences.

Amazon, Seattle, WA   Jan. 2023 – Aug. 2023
Machine Learning Research Intern
- Designed and implemented machine learning pipelines for predictive maintenance in industrial IoT systems, reducing downtime by 20%.
- Optimized hyperparameters of deep learning models using grid search and Bayesian optimization, improving model accuracy by 15%.
- Collaborated with cross-functional teams to deploy models into production, enhancing operational efficiency.

University of California, Berkeley, Berkeley, CA   Jan. 2018 - May 2020
Undergraduate Research Assistant, ABC Lab
- Designed and implemented a recommendation system for personalized content delivery, achieving a 20% boost in user engagement metrics.
- Conducted large-scale data cleaning and preprocessing using Python and SQL, ensuring the reliability and usability of datasets for research.
- Collaborated on developing a predictive analytics model to optimize resource allocation in cloud computing environments.
- Co-authored two research papers and mentored junior students on data science best practices.

SELECTED MACHINE LEARNING RESEARCH PROJECTS

Optimizing Time Series Forecasting for Financial Data   June 2024 - Present
- Build an ensemble forecasting model leveraging recurrent neural networks (RNNs) and traditional statistical methods, reducing error rates by 15%.
- Partnered with industry partners to integrate forecasting solutions into real-time decision-making systems.
- Developed an automated pipeline for data preprocessing, reducing processing time by 40%.

Natural Language Processing for Customer Sentiment Analysis   Aug. 2023 – May 2024
- Applied transformer-based architectures (e.g., BERT) to classify customer feedback into actionable categories.
- Implemented unsupervised learning methods to identify emerging trends in customer reviews, leading to strategic business insights.
- Delivered findings in a detailed report adopted by a Fortune 500 company for improving customer experience strategies.

Image Classification Using Convolutional Neural Networks   Jan. 2022 – Nov. 2022
- Developed a convolutional neural network (CNN) model for image classification, achieving 95% accuracy on a publicly available dataset.
- Streamlined data preprocessing steps to improve model training efficiency.

SELECTED PUBLICATIONS & CONFERENCE PRESENTATIONS

- **T. Jacket**, et al., "Deep Learning for Time Series Forecasting," *Journal of Machine Learning Research*, vol. 25, pp. 123-135, 2024.
- **A. Taylor**, J. Noe, et al., "Advances in Predictive Modeling for IoT Systems," presented at the *IEEE International Conference on Big Data (Big Data)*, 2024.
- A. Smith, **T. Jacket**, et al., "Transformer Models for NLP Applications," in Proceedings of the *Neural Information Processing Systems* (NeurIPS), 2023, pp. 4567-4579.
- **T. Jacket**, "Optimizing Predictive Analytics Pipelines," presented at the *Data Science Conference*, 2022.
- **T. Jacket**, et al., "Ensemble Methods in Time Series Analysis," in Proceedings of the *International Conference on Machine Learning (ICML)*, 2021, pp. 230-242.

LEADERSHIP &COMMUNICATION EXPERIENCE

Georgia Institute of Technology, Atlanta, GA   Aug. 2022 – May 2023
Graduate Teaching Assistant (Fall 2022, Spring 2023)
- Courses taught: Computer Organization & Programming, Intelligent and Interactive Systems
- Led discussion sections and created interactive coding tutorials to support student learning.
- Provided detailed feedback on assignments and projects and mentored students through weekly office hours, resulting in a 15% increase in course satisfaction scores.

Computer Science Graduate Student Association, Atlanta, GA   Aug. 2021 – May 2024
Outreach Co-Chair & Recruitment Co-Chair
- Coordinated outreach programs engaging K-12 students in interactive science activities to foster an early interest in computer science and STEM fields.
- Designed and implemented virtual and on-campus recruitment initiatives to showcase the School of Computer Science to prospective graduate students over a 3-year period.