

Shicheng Wen

University of Southern California | wenshich@usc.edu | (+1)213-633-9363

EDUCATION	University of Southern California	Jun 2022 - Expected May 2024
	M.S. in Computer Science • Focus: Natural Language Processing Advisor: Dr. Xuezhe Ma	GPA: 4.0/4.0
	Michigan State University	Aug 2016 - Dec 2020
	B.S. in Computer Science & Mathematics	GPA: 3.75/4.0
RESEARCH EXPERIENCE	Community-level News Reaction Prediction	Mar 2023 - Present
	Advisor: Dr. Xuezhe Ma, Mentor: Nuan Wen • Created dataset by collecting news of COVID-19 and corresponding comments on Reddit via Pushshift and Praw • Preprocessed the data and fine-tuned a BART model to predict communities' reactions to each news post with top "likes" • Performed a human evaluation of stance to the extracted events in the news via Amazon Mechanical Turk	
PROJECT EXPERIENCE	Low-Resource Data-to-Text Generation via Cycle Training	Oct 2023 - Nov 2023
	Advisor: Dr. Jonmay, Justin Cho <i>A Reproduction Study</i> • Reproduced the data-to-text generation by fine-tuning a T5 model with cycle-training in low-resource setting and unsupervised setting • Extended the work on training and evaluating in more domains, and ablate studied the influence of data overlapping in low-resource settings	
	Sentiment Analysis Exploration	Oct 2023 - Nov 2023
	Advisor: Dr. Jonmay, Justin Cho • Explored fine-tuning pre-trained transformer-based models like BERT, RoBERTa, GPT2, XLNet, and ELECTRA for sentiment analysis • Applied to datasets including IMDb, Amazon Polarity, Yelp Polarity, and Rotten Tomatoes, incorporating dataset augmentation	
	Building Feed Forward Network from Scratch	Oct 2023
	Advisor: Dr. Jonmay, Justin Cho • Built a feed forward network from scratch using Numpy. Implemented Numpy tensor with auto grad and modularized the network layer. Trained and evaluated the model in a text classification problem	
	AI-Generated Text Detection via Contrastive Learning	Feb 2023 - Apr 2023
	Advisor: Dr. Mohammad Rostami, Dr. Xuezhe Ma, Nan Xu • Utilized GPT-2 and Llama to generate human-AI text pairs datasets from Wiki Plots, CNN Daily Mails, ROC Stories, and other sources. • Fine-tuned a RoBERTa-based model with MaM adapters along with the triplet loss for effective black-box AI-generated text detection.	
	POS and NER Tagging by BiLSTM+CNN	Mar 2023
	Advisor: Dr. Mohammad Rostami, Dr. Xuezhe Ma • A project studied on POS and NER tagging using a combined Bi-LSTM and CNN architecture. Used GloVe for initial word embedding and developed the deep neural network using PyTorch.	
	Time Series Forecasting: Store Sales	Nov 2022
	Advisor: Dr. Vatsal Sharan <i>A Kaggle Challenge Project</i>	

- Cleaned the sales data of a store chain, holiday data, and oil data over time in various regions. Performed feature engineering for time series forecasting
- Used Sci-kit Learn and Darts framework to build a hybrid model depending on product type, including random forest, LightGBM, automatic correlation determination regression, LSTM, and predicted the sales in future months.

WORK EXPERIENCE

Beijing Yan Ruan Jing Chuang Technology Co. Mar 2021 - Mar 2022
Algorithm Engineer Beijing, China

- Used the PaddleOCR along with edge detection, rotation detection, and perspective distortion to develop an automated verification web application interface for the company to extract identity card information from photos
- Built an action recognition system using the Baidu AI interface for surveillance to identify dangerous human group actions during the COVID-19 pandemic
- Developed a big data support platform, including data storage, data management, data cleaning, data modeling analysis, and data visualization.

Quicken Loans Sep 2020 - Dec 2020
Back-end Developer Internship East Lansing, Michigan, U.S.

- Develop Rally OKR(Objectives and Key Results), a highly customized enterprise management system for Quicken Loans, including functions such as shepherd grading, peer comments, excel exportation, and quarterly evaluation
- Implemented status tracking OKRs by writing Restful API under ASP.NET Core framework, designed database schema, stored OKR data to AWS RDS and file data to AWS S3

Michigan State University College of Engineering Aug 2019 - Dec 2019
Teaching Assistant East Lansing, Michigan, U.S.

- Instructed freshmen in programming concepts, focusing on Python syntax, Pandas library, and fundamental algorithms
- Conducted weekly Help Sessions to support students with homework and assignments, providing individualized assistance for improved learning outcomes

PUBLICATIONS MIDDAG: Where Does Our News Go? Investigating Information Diffusion via Community-Level Information Pathways. **AAAI-24 demo**
 Mingyu Derek Ma, Alexander K. Taylor, Nuan Wen, Yanchen Liu, Po-Nien Kung, Wenna Qin, **Shicheng Wen**, Azure Zhou, Diyi Yang, Xuezhe Ma, Nanyun Peng, Wei Wang

TECHNICAL SKILLS

Languages: Python, C++, C#, C, JavaScript, HTML, MySQL, SQLite, MongoDB
Frameworks & Libraries: Pytorch, TensorFlow, HuggingFace, Scikit-Learn, NLTK, PaddlePaddle, ASP.NET, Django, Flask
Others: LaTeX, Unity, UnrealEngine

VOLUNTEER EXPERIENCE

East Lansing Public Library Feb 2017 - May 2017
 • Tutored East Lansing High School students in fundamental math using interactive games, enhancing their learning interest and understanding

SELECTED COURSE

University of Southern California
 CSCI 662: Advanced Natural Language Processing
 CSCI 596: Scientific Computing and Visualization
 CSCI 544: Applied Natural Language Processing
 CSCI 585: Database Systems

Michigan State University
 Discrete Mathematics, Linear Algebra, Abstract Algebra, Mathematical Analysis, Probability and Statistics, Web App Development, Machine Learning