

HIGH-PERFORMING ENGINEER DRIVING INNOVATION IN PRIVACY-PRESERVING AI, SCALABLE SYSTEMS, AND DEEP LEARNING
MACHINE LEARNING & DATA PRIVACY INNOVATION | SYSTEMS & SOFTWARE ENGINEERING | COLLABORATION & PROBLEM-SOLVING

PROFILE

- PhD student with a strong foundation in machine learning, data science, and software engineering.
- Experienced in supervised and unsupervised learning, deep learning, recommender systems, and privacy-preserving AI.
- Proficient in Python and ML frameworks (TensorFlow, PyTorch), with hands-on experience in end-to-end ML pipelines and model deployment.
- Skilled in software engineering best practices including version control, testing, and code review.
- Published researcher with contributions to privacy-preserving AI, misinformation detection, and DEI audit tools for news sources.
- Passionate about solving open-ended challenges with curiosity, resilience, and creativity, embodying Netflix's culture of innovation, excellence, and collaboration.

PUBLICATIONS

AMICA: ALLEVIATING MISINFORMATION FOR CHINESE AMERICANS

Proceedings of the 46th International ACM SIGIR Conference on Research and Development in Information Retrieval (SIGIR '23), May 4, 2023.

The rise of social media has exacerbated the spread of misinformation, particularly within Chinese-speaking diaspora communities, leading to significant negative societal consequences. While much of the existing research on misinformation mitigation has concentrated on English and other Western languages, this has left many overseas Chinese communities particularly vulnerable to online disinformation campaigns.

This paper introduces AMICA, an information retrieval system designed to mitigate misinformation for Chinese Americans. AMICA dynamically collects data from popular social media platforms, including WeChat, Twitter, YouTube, and Chinese-language forums. The data is then stored and indexed in Elasticsearch, enabling advanced search functionality. When a user submits a query, the system ranks social media posts based on both their topical relevance and the likelihood of containing misinformation.

DIANES: A DEI AUDIT TOOLKIT FOR NEWS SOURCES

Proceedings of the 45th International ACM SIGIR Conference on Research and Development in Information Retrieval (SIGIR '22), July 11, 2022.

Professional news media organizations often emphasize their commitment to presenting multiple perspectives. However, the traditional approach to "all-sides" has predominantly amplified voices from the dominant culture, which has led to ethical critiques in light of modern diversity, equity, and inclusion (DEI) standards. In journalism, DEI extends beyond conventional notions of impartiality and bias, focusing on democratizing the sourcing process—questioning who is quoted, interviewed, and from which demographic groups or gender. Despite this need, there is currently no real-time or on-demand tool available for reporters to assess the diversity of their sources.

This paper introduces DIANES, a DEI Audit Toolkit for News Sources. DIANES leverages a natural language processing pipeline to extract quotes, speakers, titles, and organizations from news articles in real time. On the frontend, it provides a suite of tools, including WordPress plugins, a Web monitor, and a DEI annotation API service, enabling news media outlets to evaluate their quoting practices and align with DEI norms.

EXPERIENCE

SUMMER INTERN, DoCoMo INNOVATIONS

06/2023 – 09/2023

DoCoMo Innovations partners with businesses, research labs, startups, and engineers to develop innovative products and services worldwide.

- Applied Fully Homomorphic Encryption (FHE) algorithms to deep learning models to enhance data privacy during training.
- Researched and optimized encrypted computation techniques to ensure secure machine learning processes.

- Assisted in developing privacy-preserving AI solutions for global applications.
- Collaborated with researchers and engineers to integrate secure computation methods into innovative products and services.
- Contributed to DOCOMO Innovations' mission of advancing secure and scalable AI technologies through industry partnerships.

SUMMER INTERN | IT DEPARTMENT, SHENWAN HONGYUAN GROUP

06/2018 – 08/2018

The Group offers integrated global investment and financing services to institutional, corporate, and individual clients. Its business scope includes personal and enterprise finance, institutional securities, asset management, and securities research.

- Built and maintained a Hadoop Distributed File System (HDFS) to support the sales department in analyzing transaction data.
- Applied Convolutional Neural Networks (CNN) on HDFS to extract features from large-scale transaction data.
- Developed predictive models to identify potential future transactions, enhancing the Group's investment strategies.
- Assisted in optimizing data processing pipelines for improved efficiency in financial analysis.
- Contributed to the Group's global investment and financing services by supporting data-driven decision-making.

MEMBER OF TECHNICAL STAFF | IT DEPARTMENT, CHINA SOUTHERN POWER GRID

09/2010 – 09/2014

CSG's power grid integrates diverse energy sources—including hydro, coal, nuclear, gas, wind, solar, biomass, pumped storage, and new energy storage—serving 272 million people in Southern China. It has enhanced connectivity with neighboring countries and continues to expand international cooperation in electric power.

- Built and maintained CSG's information system, ensuring seamless integration of diverse power sources, including hydro, coal, nuclear, gas, wind, solar, biomass, pumped storage, and new energy storage.
- Developed and optimized IT infrastructure to support a power grid serving 272 million people across Southern China.
- Enhanced grid connectivity with neighboring countries by implementing advanced data exchange and system interoperability solutions.
- Strengthened cybersecurity protocols to safeguard critical grid operations and data integrity.
- Supported global cooperation initiatives by facilitating data sharing and technical collaboration in electric power.
- Improved system efficiency and reliability through continuous monitoring, troubleshooting, and performance optimization.

— EDUCATION —

- PhD, Computer Science and Engineering, Santa Clara University, Class of 2025
 - Research on AI Project (09/2018 – 12/2024)
 - Developed and trained AI Recurrent Neural Networks to auto-generate Chinese poetry.
 - Built an AI face recognition system using Principal Component Analysis (PCA) in MATLAB.
 - Designed a semi-automatic DEI audit system for news sourcing using Natural Language Processing (NLP) and Machine Learning (ML).
 - Developed an information retrieval system to combat misinformation targeting Chinese Americans.
 - Implemented a Neural Recommender System to enhance personalized content delivery.
- MS, Computer Science and Engineering, Santa Clara University, Class of 2018
 - Relevant Coursework: Artificial Intelligence, Machine Learning, Information Retrieval & Web Search, Algorithms, Natural Language Processing, Object-Oriented Analysis, Database Systems, Operating Systems, Distributed Systems, Computer Networks, Computer Architecture, Cryptology.
- BA: Management, Guizhou University, Class of 2010

— LICENSE & CERTIFICATION —

- Junior Accountant (Chinese), Ministry of Human Resources and Social Security and Ministry of Finance of the People's Republic of China – 06/2012