BINGSEN (BALE) CHEN

1 E 2nd Street, New York, NY, US | +1 (929) 622-0885 | bale.chen@nyu.edu | LinkedIn | GitHub | Medium

EDUCATION

New York University Shanghai, Shanghai, China   Expected graduation date: 05/2024
New York University (Study Away Program), New York, United States   01/2023 – 05/2023
Major: Data Science (Artificial Intelligence track) **Minor:** Mathematics   Cumulative GPA: 3.96/4.00

Honors: Dean's List 2020-2021 & 2021-2022, Global Elite Scholarship ($19500 awarded for top 6% incoming freshman)

PROJECT PORTFOLIO

Beyond DetectGPT: Towards AI-generated Text Detection in a Black-box Setting   Paper | GitHub
Course Project in DS-GA 1012 Natural Language Understanding | Instructor: Sophie Hao   Spring 2023
- Coordinated with a group of 4 master and undergraduate students to conduct conference style research.
- Proposed the fine-tuned OPT method that shows potential of generalizing DetectGPT framework to a black-box setting and adopted a different metric to tackle the false positive rate issue with AUROC

Plant Seedling Classification Competition: A Deep Learning Approach   Paper | GitHub
Course Project in DS-GA 3001 Modern Topics in Statistical Learning Theory | Instructor: Prof. Qi Lei   Spring 2023
- Won the 6th place among 22 groups of master students in this class-wide Kaggle-style competition with F1-score 0.983
- Experimented with transfer learning, data augmentation, cyclic scheduler, ensemble method, model scaling, and RayTune.

Spatial Equity Analysis of Public Electric Vehicle Charging Stations: A Case Study of Shanghai   Report | GitHub
Research Associate, Key Lab LOUD, Shanghai, China | Advisor: Prof. Chenghe Guan   03/2022 – 12/2022
- Proposed an equity analysis framework that consists of an improved gravity model of accessibility and regression analysis (linear and geographically weighted regression) using Python and GIS
- Collected the EV charging station, demographic, socioeconomic, and POI data using Python web-scraping and AMap API
- Designed an algorithm for pixel-level accessibility measurement based on the improved gravity model using Python and AMap API, which reduces computational time by over 100x

Qualitative and Quantitative Analysis of Configurating SAC Algorithm with REDQ and Reset Mechanism   GitHub
Course Project in CSCI-SHU 375 Reinforcement Learning | Instructor: Prof. Keith Ross   Fall 2022
- Analyzed the configurations of Randomized Ensembled Double-Q (REDQ) Learning, Reset Mechanism, and hyperparameter tuning in the Soft-Actor Critics algorithm in deep reinforcement learning
- Presented the paper "The Primacy Bias in Deep Reinforcement Learning" by Nikishin et al. and its Reset Mechanism

Trash or Treasure: How to Utilize Emojis in Social Media Sentiment Classification   Blog | Report | GitHub
Undergraduate Student Researcher, NYU Shanghai, Shanghai, China | Advisor: Prof. Mathieu Lauriere   05/2022 – 01/2023
- Experimented the emoji-compatibility of pretrained BERT-based encoders and how emojis can be incorporated into sentiment analysis to improve accuracy
- Proposed 5 innovative data preprocessing method for emojis that robustly boosts sentiment analysis accuracy by 1.2%
- Published a blog post on Towards Data Science medium account and won the Best Project in STEM and Media in the Fall 2022 Undergraduate Research Symposium

An Optimization of Shanghai's Lockdown Policy: Economy, Mental Health, and Severe Cases Considered   GitHub
Course Project in DATS-SHU 240 Intro to Optimization and Math Programming | Instructor: Prof. Zhibin Chen Spring 2022
- Proposed a mathematical model that builds upon the SEIR model to simulate the COVID outbreak in Shanghai 2022, with economics, public mental health, and severe cases considered
- Optimized Shanghai 2022 lockdown policy with Genetic Algorithm and conducted sensitivity analysis to understand optimization results

RESEARCH EXPERIENCE

NYU Shanghai Frontiers Science Center of Artificial Intelligence and Deep Learning, Shanghai, China
Research Assistant | Mentor: Prof. Yik-Cheung Tam   05/2023 – Present
- Conducted research in the field of reinforcement learning and large language models (Ongoing)

Shanghai Key Lab of Urban Design and Urban Science (LOUD), Shanghai, China   Webpage
Research Associate   05/2022 – Present
- Led a lab research project on spatial equity analysis on public EV charging stations in Shanghai with Dr. Jialin Liu
- Assisted in a water quality remote sensing project by developing a CNN model and processing sensed image data
- Participated in bi-weekly lab meetings to present recent research progress and help other members with data modeling tasks

PROFESSIONAL EXPERIENCE

New York University Shanghai Residential Life, Shanghai, China
Resident Assistant   09/2021 – 12/2022
• Managed residential hall 2 floors of 40 ethnically diverse residents by designing bi-weekly events, conducting 1-1 conferences, and enforcing residential policies.
• Troubleshot emergencies regarding students' physical and mental health, interpersonal conflicts, and facilities issues.
• Cooperated with a team of 6 supervisors and 30 resident assistants to conduct special projects including new recruits training, school-wide programs, and recruitment.

Pingan Bank, Shanghai, China
Data Analyst Intern   06/2021 – 08/2021
• Retrieved and processed billions of data daily with HiveQL to support 6 business decisions on a plugin display system.
• Developed 16 auto-updating visualized reports on a Tableau-like platform for mid-year reports and daily monitor.
• Executed an automation project individually on tabulating and error-detecting process of the department's capacity report with Python, thus speeding up the workflow by 7 times and improved accuracy by 42%.
• Maintained 84 tables in a database by monitoring daily data updates, altering fields based on business requirements, and managing storage usage.

NYU Shanghai Center for Career Development, Shanghai, China
Student Worker Leader & Senior Student Worker   09/2021 – 05/2022
Junior Student Worker   09/2020 – 08/2021
• Managed and coordinated a team of 17 to facilitate events and develop career-related resources.
• Executed a video making project with a team of 3, mainly producing a series of short videos for service introduction and event promotion, and organizing video-making workshops for colleagues.
• Organized and arranged recruitment process of new junior student workers, selecting 8 from 100+ candidates.

SELECTED COURSES (WITH GRADES)

• Natural Language Understanding and Computational Semantics (Graduate Level; A)
• Advanced Python for Data Science (Graduate Level; A)
• Reinforcement Learning (A)
• Machine Learning (A)
• Special Topics in Data Science: Modern Topics in Statistical Learning Theory (Graduate Level; A)
• Mathematical Statistics (A)
• Intro to Optimization and Mathematical Programming (A)
• Computational Urban Science and Big Data (A)

EXTRACURRICULAR ACTIVITIES

Technical Writer, Towards Data Science Medium Publication   [Webpage](#) | 01/2023 – Present
• Published articles about my project experiences or frontier research directions occasionally

1st Place in Hack the Pearl 2022 Data Modeling Track, NYU Shanghai   [GitHub](#) | 04/2022
• Implemented and tuned multiple machine learning models to predict 4 kinds of diseases based on patients' personal data within a 48-hour time window

Emcee, I AM LIMITLESS Conference 2022, NYU Shanghai   05/2022
• Hosted and coordinated the opening of the annual career development conference with 4 distinguished guests and moderated an alumni dialogue session

Bass Singer, Elite A Capplla Choir, NYU Shanghai   05/2021 – Present
• Performed around 40 pieces of both popular and classical A Cappella arrangements in 8 pop-up shows and 5 concerts

National Top 6 in L'Oréal Brandstorm Competition, L'Oréal China   01/2021 – 04/2021
• Collaborated with a team of 3 in designing an entertaining shopping experience for Atelier Cologne and making 3 business pitches

HONORS & SCHOLARSHIPS

Dean's Undergraduate Research Fund, NYU Shanghai   05/2022
Recognition Award for Academic Year 2021-2022, NYU Shanghai (87 recipients in the whole school)   07/2022
Recognition Award for Academic Year 2020-2021, NYU Shanghai (50 recipients in the whole school)   07/2021

SKILLS

Artificial Intelligence: High proficiency in PyTorch and Hugging Face framework
Data Science: Python (NumPy, Scikit-learn, Pandas, Seaborn, etc.), SQL
Other Technical Skills: Working with HPC, LaTeX, ArcGIS/QGIS, Stata, Arduino UNO, Processing
Language: Mandarin(Native), English(Professional Work Proficiency)