bni@nd.edu

BO NI

(574)340-6550

Data Scientist

Apt 4203, 18490 Dunn Rd, South Bend, IN 46637

EDUCATION

University of Notre Dame *August 2017 - May 2021*
Bachelor of Science in Mathematics and Computing Overall GPA: 3.98 / 4.0
Second Major: Economics Dean's List All Semester

COURSEWORKS/SKILLS

Programming: Fundamentals of Computing, Data Structures, Algorithms, Mobile Development, Web Development
Statistics: Time Series Analysis, Econometric, Probability Theory, Statistical Inference, Survival Analysis
Machine Learning: Data Mining, Computer Vision, Causal Machine Learning, Anomaly Detection, Social Sensing

HONORS

Best External Source Prize $1000 ASA DataFest 2019, University of Notre Dame
Whitman Family Fellowship $4000 Summer 2019, University of Notre Dame
Summer Experience Fellow Ship $1000 Summer 2018, Liu Institute for Asian and Asian Studies at Notre Dame

WORK EXPERIENCE

Mobile Computing Lab, University of Notre Dame *September 2018 - May 2019*
Purple Martin Project Team Leader *Notre Dame, IN*

- **Software Engineering:** Developed a mobile app with Ionic and React for Purple Martin Conservation Association that will cover 3k to 4k participants a year. Functions including reports submission and news updates.
- **Team-work:** Held weekly meetings with Prof.Pollabeur and team members. Discussed needs and updates on a monthly-base with the leader of the organization (Purple Martin Conservation Association).
- **Frameworks used: Ionic, Parse, React JS**

Medical Big Data Department, Tencent *June 2018 - July 2018*
Data Analyst *Shenzhen, China*

- **Natural Language Processing:** Extracted smoking habits from over 10000 patients' self reports using snowNLP, a Chinese word segmentation tool. Analyzed the data with Latent Dirichlet Allocation to extract semantic topics.
- **Machine Learning:** Utilized bagging methods to achieve a 95% accuracy in the task of lung disease prediction.
- **Models Used: Random Forest (xgboost), SVM, snowNLP**

Global Market Department, Xiaomi *May 2018 - June 2018*
Globalization and Market Access Intern *Beijing, China*

- **Data Analysis:** Gathered market data from Xiaomi's major foreign markets and reached a mutual conclusion with supervisors that Western Europe was a good market to enter.
- **Market Research:** Researched EU compliance laws and designed current packaging for Mi Body Weight Scale in Western Europe.
- **Language Used: Python**

RESEARCH EXPERIENCE

Lab of Data Mining and Decision Making (DM2), University of Notre Dame *August 2019 - Present*
Undergraduate Researcher *Notre Dame, IN*

- **Data Mining in Social Networks:** Actively preparing the paper *Enhancing Early-Stage Fraud Detection by Behavior Forecast* for KDD 2020 with Prof. Meng Jiang and Ph.D student Tong Zhao. Contributed a python module for log-normal mixture model and reconstructed algorithms in a state-of-art paper *Dynamic Origins of Distribution Functions.*
- **Language used: Python, C++**

Lab of Medical Image Computation, Massachusetts General Hospital *May 2019 - July 2019*
Data Science Researcher *Boston, MA*

- **Anomaly Detection:** Proposed an anomaly detection method using mean-squared-error obtained from a restricted Autoencoder. Model reached 82% recall rate and 0.85 AUROC score in the task of Pneumothorax detection.
- **Frameworks used: Pytorch**

Social Sensing Lab *August 2018 - May 2019*
Undergraduate Researcher *Notre Dame, IN*

- **Poetry Recommendation:** Built datasets and baselines for the paper *Through The Eyes of A Poet: Classical Poetry Recommendation with Visual Input on Social Media.* Scraped Chinese poems from online with scrapy and built models using Word2vec and Sentibank. Published the paper as second author.
- **Python Framework Used: Scrapy, Flask**

PUBLICATIONS

- **Bo Ni**, ZhiChun Guo, Jianing Li, Meng Jiang. (2020). "Improving Generalizability of Fake News Detection Methods using Propensity Score Matching". Submitted to International Conference on Web and Social Media (ICWSM) 2020 (Poster)
- Daniel Yue Zhang, **Bo Ni**, Qiyu Zhi, Thomas Plummer, Qi Li, Hao Zheng, Qingkai Zeng, Yang Zhang, Dong Wang.(2019). Through The Eyes of A Poet: Classical Poetry Recommendation with Visual Input on Social Media. Advances in Social Analysis and Mining(ASONAM) 2019 (Oral)

ADDITIONAL INFORMATION

Languages	Chinese(Native), English(Professional), Japanese(Conversational)
Programming Skills	Python, C++, MATLAB, JavaScript, Git, LaTeX
Interests	Investment, Basketball, Soccer, Philosophy