

# Yanxiang Zhou

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https://yanxiang-zhou.github.io

## EDUCATION & HONORS

### Georgia Institute of Technology

Atlanta, US

- **Master of Computational Science & Engineering**, Overall GPA: 4.0/ 4.0 08/2021 – 05/2023
- **Related Coursework:** Graduate Algorithms; Data and Visual Analytics; Data Mining; Multivariate Data Analysis; Theoretical Statistics; Artificial Intelligence; Machine Learning; Regression Analysis; Database Management System

### Central University of Finance and Economics

Beijing, China

- **Bachelor of Economics**, Overall GPA: 3.8/ 4.0 09/2017 – 06/2021

## SKILLS

### Language:

- **Software Development:** Python, C++, Shell
- **Data Engineering:** R, SQL, Scala, MATLAB, STATA, SPSS
- **Web Client Development:** JavaScript

**Frameworks and tools:** Pytorch, TensorFlow, Spark, Hadoop, AWS (S3, ECR), Google Cloud Platform, Tableau, Git, Spacy, Huggingface, Transformer, Flask, GraphQL, MySQL, SQLite, PostgreSQL, HTML5, CSS, JSON, OpenMPI, Bash, Docker, Jenkins, MongoDB, React.js, Node.js, d3.js, Vue.js

**Analytical:** Data Analysis, Data Visualization, Machine Learning, NLP, Optimization, Time Series Analysis, Operations Research, Hypothesis Testing

## PROFESSIONAL EXPERIENCE

### Mentra

10/2021 – 03/2022

#### Data Scientist Intern

Atlanta

- Working in data science team to construct a job matching system for neurodiverse
- Developed and fine-tuned **BERT** model in **Pytorch** to classify texts in job postings and created a process to automatically construct training dataset
- Trained robust **BiLSTM-CRF** model to extract job titles, locations, skills and proficiency requirement information from job descriptions
- Built an API on top of the job information extraction model and **GraphQL** backend, implemented a GraphQL server controller with various queries, types, mutations, and resolvers, and created a **React** front end

### Peakview Capital

10/2020 – 01/2021

#### Data Scientist Intern

Beijing

- Designed and managed an E-commerce company database using **MySQL**, implemented a Python database management system to perform access control, SQL injection prevention, CURD operations and to support data analysis on products
- Utilized the Gaussian Mixture Model-Hidden Markov Model (**GMM-HMM**) to predict future revenues and sales trends in target corporation
- Trained and fine-Tuned the **BART** Large Model for text summarization of investment reports and achieved Rouge-1 score 42.3, applied topic model (**LDA**) on the results to classify reports
- Migrated the NLP model to Python based **API (RESTful Web Service)** using **Flask**, **HTML**, **CSS**, **JSON**, deployed REST API in **AWS API Gateway**

### Huaxia Bank

01/2020 – 06/2020

#### Software Engineer Intern

Beijing

- Built **ETL pipeline** for default loans utilizing **AWS Glue**, **S3** and Python (**PySpark**, **NumPy**, **Pandas**), visualized data using **Tableau**, **Matplotlib** and **Seaborn**
- Participated in building and launching a loan fraud detection system based on **xgboost** and Generative adversarial network (**GAN**) anomaly detection algorithms, used feature engineering to improve detection rate by 4.2%
- Implemented a Continuous Integration and Continuous Delivery (**CI/CD**) pipeline for the loan fraud detection system with **Docker**, **Jenkins** and **GitLab**
- Trained and fine-tuned models including **BERT** and **Text CNN** (in **TensorFlow**) on social media comments regarding banking products and services to perform the task of financial text sentiment analysis and key word extraction
- Built RESTful API for the NLP model, executed REST API call on **Apache Spark**, and deployed RESTful API to **Google Cloud Platform**

## RELEVANT PROJECTS

### Recipe Recommendation Website, -Full Stack Web Service Development

08/2021 – 12/2021

- Built a recipe recommendation website which allows users to choose partial ingredients and receive recommended recipes
- Developed responsive web pages using **HTML** and **CSS**, leveraged tools including **d3.js** to visualize recommendation output and create interactive charts and graphs on website
- Constructed a database of 230k recipes, performed feature engineering using **TF-IDF** and lemmatization, trained a **xgboost** regression model to simulate the relationship between ingredient combination and potential recipe rating
- Integrated the machine learning model to the web application using **Flask**

### Text Classification and Fraud Detection for Risk Management, China Computer Federation, Big Data Contest (Ranking: 2/1998)

11/2020 – 12/2020

- Applied **xgboost**, **GBDT**, **catboost** and **Random Forest** to predict loan default, performed model evaluation and selection based on AUC score, the final model achieved AUC score 0.89
- Devised an unsupervised data pre-process method (**PCA**, **K-means**) to detect missing labels, trained multi-label text classification model based on **RoBERTa**, achieved accuracy 0.93