

Permanent Address:  
Xiangjiangyue Unit 2 1701,  
Harbin, Heilongjiang, China

## YUANZHAN GAO

yg8ch@virginia.edu  
(+1) 540-618-0766

<https://notright123.github.io/yuanzhangao.github.io/>

Current Address:  
067 Weedon  
22904, Charlottesville, VA

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## Education

University of Virginia, Charlottesville, VA

August 2020 – June 2024

Computer Science & Economics (Financial Concentration) Double Major

- GPA: 3.93/4.0
- Echols Scholar
- Relevant Courses: Software Development Techniques, Advanced Software Development, Machine Learning, Econometrics

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## Experience

Economics Department - University of Virginia, Charlottesville, Virginia

Undergraduate Economics Research Assistant

December 2022 – Present

- Used a combination of Python's *Geopandas*, *Shapely*, *PyModis* packages to reversely compute NASA Modis dataset's pixel geographical coordinate, automatically retrieve and process NASA satellite data within the designated time interval, and classify pixel values by regions
- Used TFIDF (Term Frequency Inverse Document Frequency) vectorizer and sparse matrix multiplication (*sparse\_dot\_topn* package) techniques with the *rapidFuzz* package to perform efficient fuzzy matchings and record linkages between big datasets
- Performed data cleansing and feature engineering using *Pandas* and *Numpy*
- Constructed academic-style plots and tables in Latex using *Matplotlib* and *Seaborn*

Computer Science Department – University of Virginia

Jan 2023 – Present

Undergraduate Teaching Assistant – Advanced Software Development

- Held weekly Office Hours to help students resolve Django-related problems with the semester-long software development project
- Served as the supervisor of 2 students-formed SDE teams to monitor their software development progresses and provide assistances

A1 Language, Alexandria, VA

May 2022 - July 2022

Research and Business Plan Development Intern

- Conducted business development research and language education market research by summarizing and synthesizing 50+ online sources and 25+ virtual interviews with potential clients
- Offered recommendations to 2 board members and CEO on strategic business development and pricing models by analyzed for-profit and nonprofit business models and operational strategies in a 45-page report
- Communicated and collaborated with 8 interns in 4 cross-functional teams using project management tools such as a Gantt Charts, project charter, project closeout report, and Google Workspace
- Drafted a multi-page business plan, a value proposition canvas, and a lean business canvas in a team setting

Taiping Asset Management Limited

Information Technology Research and Development Intern

June 2022 - August 2022

- Conducted research into history of the applications of Machine Learning algorithms in the asset management industry
- Conducted research into feasible strategies of implementing ML models into existing services and products and performed cost-benefit analysis to evaluate potential approaches
- Applied traditional classification Machine Learning algorithms (SVM, Random Forest) on historical market data to study financial market trends
- Applied Bayesian Learning Algorithm to forecast market behaviors and adjust investment portfolios
- Drafted a 20-page written report (in Chinese) and presented the findings within the IT Department

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## Skills

- Intermediate proficiency in Data Analysis and Machine Learning with Python and STATA
- Intermediate proficiency in Web Software Development with Python's *Django* Framework, and familiar with front-end languages such as HTML, CSS, JavaScript (including jQuery)