

YICHEN (RUBY) PAN

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EDUCATION

Columbia Business School

Master of Science, Marketing Science

New York, NY

May 2024

The University of Texas at Austin

Bachelor of Business Administration, Management Information Systems (Honors)

Bachelor of Science and Arts, Mathematics (Honors)

Certificate: Computer Science; Applied Statistical Modeling

Austin, TX

May 2023

RESEARCH INTERESTS

Substantive: Big Data Analytics, AI, User Generated Content, FinTech, Customer Analytics, Social Networks, E-commerce, Digital Transformation, Digital Platforms

Methodological: Machine Learning, Predictive Modeling, Deep/Graph Neural Networks, Natural Language Processing, Bayesian Methods, Applied Econometrics, Casual Inference

RESEARCH EXPERIENCE

Research Assistant

Apr 2023 - Present

Dr. Yifan Yu & Dr. Lin Jia

- **Project: Predictive Modeling of Customer Complaints in LendTech Platform**
- **Objective:** Developed a robust AI-driven framework to predict customer complaints within a P2P lending environment. The project aimed to identify early indicators of dissatisfaction through user interaction patterns and anticipate complaint filings to improve operational efficiency and customer retention.
- **Method:** Applied predictive models to capture dynamic changes in customer behavior and predict customer complaints
- **Responsibilities:** (1) Conducted literature review on Temporal Point Processes (TPP), clickstream data analysis, and use pattern. (2) Collaborated with company representatives to gain an in-depth understanding of the customer journey and critical touchpoints. (3) Cleaned and preprocessed data, built predictive models, wrote and reviewed code and markdown files for data analysis, visualization, and reporting.

Research Assistant, Salem Center for Policy

Jan 2021 - May 2023

The University of Texas at Austin, Dr. Scott Bauguess & Dr. Steven Rashin

- **Featured Project: How organized interests leverage private information to influence public policy**
- **Objective:** Investigated the impact of various entities throughout the SEC rulemaking process
- **Method:** Used Python web-scraping techniques to collect data; conducted text preprocessing and compared similarity between proposed and final rules, and utilized LexPredict's legal jargon dictionaries to understand the complexity of rules and comment letters
- **Project results:** (1) Compiled a comprehensive dataset by extracting and classifying entity names from SEC comment letters and meeting memorandums, spanning 2000-2021, collecting Google Scholar information for 5000+ publications cited by the SEC, curating financial data through WRDS and Compustat. (2) Summarized the dynamics of SEC comment letters and meetings over time. (3) Analyzed entity participation rate and coalition formations in the rulemaking process, highlighting the significant influence of corporations and interest groups on SEC rulemaking.
- **Website:** <https://anelsongroocock.wixsite.com/teaming-up-or-flying>

Undergraduate Research Assistant, Information Retrieval Crowdsourcing Lab

Dec 2020 - May 2021

The University of Texas at Austin, Dr. Matthew Lease

- **Project: Hate Speech Detection in Social Media**
- **Responsibilities:** (1) Selected and reviewed 20+ literature. (2) Compared hate speech detection guidelines across the Facebook and Twitter communities. (3) Analyzed data selection methods and annotation categories used in detection models. (4) Constructed an experiment pipeline to test ML models' performance in hate speech detection with PyTorch.

PROFESSIONAL EXPERIENCE

Never Realm, Entrepreneurial AI-Driven Game for Emotional Support

Remote

Formed with CBS colleagues

Nov 2023 - Present

- Co-created and defined the core vision of the game aimed to provide emotional support and encouragement to users through AI-driven interactions
- Developed advanced Large Language Models (LLMs) with long-term memory recall mechanism, enabling the AI to retain memories of user interactions beyond token limits
- Led the design and iteration of the game's prototype in Figma, crafting an intuitive and user-friendly interface and designing three distinct male characters with Midjourney and Live2D Cubism
- Directed the recruitment of voice actors and developed copyrighted text-to-speech (TTS) models, allowing characters to interact dynamically with players

ByteDance

Shanghai, China

Data Science Intern

May 2023 - Aug 2023

- Monitored monthly KPIs, created performance reports, and constructed data visualizations with dashboards, providing actionable insights for strategic decision-making for 10+ products
- Developed and refined machine learning models using ARIMA and XGBoost with daily historical data, improving advertising revenue predictions by 12% for 8 flagship products
- Analyzed engagement metrics, behavioral patterns, and demographic information for three products using SQL and R, generating user segments and enabling targeted marketing campaigns with more efficient budget allocation strategies, expected to increase user engagement by 8%

Unilever Prestige

Shanghai, China

Strategy Intern

May 2022 - Jan 2023

- Investigated emerging Asian markets for skin care, hair care, and cosmetics brands, by employing multi-attribute value modeling techniques to assess market potential and viability
- Collected data and researched on the premium skincare market, focusing the impact of e-commerce penetration on consumer behavior and market dynamics
- Analyzed Dermalogica business opportunities from growth strategy and channel strategy perspectives; developed methodologies for performing risk analysis, competitive analysis, and estimating market capacity

TEACHING EXPERIENCE

Red McCombs School of Business, The University of Texas at Austin

Austin, TX

Undergraduate Teaching Assistant/Grader

- Fall 2022: STA 235 Data Science for Business Applications
- Fall 2021/Spring 2022: STA 371G Statistics and Modeling

Mingyuan Zhou

Daniel Mitchell

HONORS & AWARDS

The University of Texas at Austin

University Honors

Fall 2019 - Spring 2023

College Scholar

Spring 2021 - Spring 2023

General ISSS Financial Aid

Spring 2021 - Spring 2023

ADDITIONAL INFORMATION

- **Languages:** Chinese (native), English (proficient), Japanese (intermediate), GRE 333/340
- **Technical Skills:** Python, R, SQL, C#, Matlab, Stata, Tableau, JavaScript, Java, HTML, ASP.NET, LaTeX