MICHAEL LIU
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EDUCATION

University of Chicago   Chicago, IL
Master of Science in Analytics   *Sep. 2018 – Mar. 2020*
- **Relevant Coursework:** Machine Learning & Predictive Analytics, Data Mining Principles, Data Engineering and Big Data Platforms, Time Series Analysis, Optimization and Simulation Methods, Natural Language Processing

University of Washington   Seattle, WA
Bachelor of Science in Economics, double majored in Psychology   *Sep. 2011 – Aug. 2015*
- **Relevant Coursework:** Advanced Economics, Econometrics, Computational Finance, Statistical Analysis
- **Leadership:** Student Senator, Vice President of CSSA
- GMAT: 750 (98th percentile)   GRE: 332 (97th percentile)

PROFESSIONAL EXPERIENCE

Uptake   Chicago, IL
Data Science Intern   *Jun. 2019 – Dec. 2019*
- Selected as the CEO's special project intern, working with senior leadership to spearhead visions for new products
- Developed wind turbine power prediction regression model with exhaustive feature engineering and massive adaptive hyperparameter optimization
- Researched creative solutions to create new features from third-party data sources & inputs from SME's
- Streamlined recurring data engineering tasks by developing a proprietary R package; it accelerates reading and parsing massive signal data from Cassandra server; reduced recurring coding time by at least 20% for the entire DS team
- Spearheaded data assessment project for a prospective client; successfully made a pilot deal conversion

Dazhong Capital Private Equity Investment Co.   Shanghai, China
Sr. Quantitative Analyst   *Sep. 2015 – Jun. 2018*
- Defined key performance indicators (KPIs) for investment projects; built regression models to determine these KPIs with creative use of features from multiple data sources; built dashboards and visualization to report insights
- Conducted risk-and-return analytics with techniques such as hypothesis testing, copula, and VaR
- Initiated and drove a project to accelerate the growth and operational efficiencies of a target firm that is scheduled for IPO, expecting 60%-70% return on investment; recognized by management for independence and can-do attitude

Industrial and Commercial Bank of China   Beijing, China
Quantitative Analyst Intern   *May 2014 – Aug. 2014*
- Developed statistical and econometric models with the aim to optimize proprietary portfolio and mitigate risks
- Researched and vetted new methodologies such as machine learning techniques to make better decisions

PwC   Seattle, WA
Advisory Intern   *Jun. 2012 – Sep. 2012*
- Conducted business analysis; achieved 1st place in case competition for a 15% increase in customer conversion rate

DATA SCIENCE PROJECTS

Capstone Project: Candidate Selection AI & Resume Smart Reader   Chicago, IL
Researcher, U of Chicago & Kraft Heinz collaboration   *April 2019 - present*
- Automated the manual process of resume screening and job applicant early selection for Kraft Heinz
- Developed an NLP resume parser to extract features and create word embeddings from plain text, feeding a vectorized resume and job description database to be used as the recommender interaction matrix
- Developed a hybrid recommendation engine that ranks and identifies the most fitting candidates for a position

Forecasting Air Quality with Time Series Analysis   Chicago, IL
Team Leader, Time Series Final Project   *April 2019 – June 2019*
- Built forecasting models (SARIMA, Holt-Winter, Neural Net) on hourly air pollution data
- Determined the effectiveness of new policy implementation by identifying multiple historical interventions and shocks

DonorsChoose.org Marketing Recommender System   Chicago, IL
Team Leader, Big Data Final Project   *Jan. 2019 – Mar. 2019*
- Scraped and stored unstructured donation and sponsor data in a Hadoop cluster for distributed computing
- Uncovered insights from data using Hive queries; developed a PySpark machine learning classifier; developed a hybrid recommender system to surface potential donors and send emails that motivate donors, using data science for good

Airbnb Listing Strategic Pricing Prediction   Chicago, IL
Team Leader, Data Mining Final Project   *Oct. 2018 – Dec. 2018*
- Gathered over 200,000 Airbnb listing data with JSON API; designed and built an OLAP database in MySQL for analytics and storage; Identified significant factors that affect listing pricing; clustered market segments with DBSCAN
- Established a new way to strategically price Airbnb listings that would greatly improve booking rate and lower vacancy

SKILLS

- **Technical:** Python, R, SQL, Tableau, UNIX, Hadoop, Spark, Hive, MongoDB, Docker, Git, Excel, PowerPoint
- **Data Science:** ETL, Linear & non-linear models, Hypothesis Testing, Feature engineering, Ensemble learning, Clustering, Neural nets & deep learning, Recommender system, NLP, Graphs, A/B test, Information retrieval