

Ruilong Zhuang

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Data-driven and analytical individual with experience of leveraging **Statistical Modeling, Machine Learning methods, A/B testing, Data Visualization tools** to identify actionable insights and make suggestions. Well-versed in communicating key findings to cross functional teams and senior members. Proficient knowledge in **Programming, Analytics, Statistics and Mathematics**.

EDUCATION

Columbia University

M.S. Operations Research

Sep 2020 - Dec 2021

New York, NY

Whitman College

B.A. Mathematics & B.A. Computer Science, Summa Cum Laude GPA: 3.9/4.0

Aug 2016 - May 2020

Walla Walla, WA

WORKING & RESEARCH EXPERIENCE

Consultant

Sep 2019 - Mar 2020

Whitman Student Consulting Corp

Walla Walla, WA

- Collaborated with a senior Consultant to provide free management consulting service for a local non-profit
- Facilitated client meetings with the director and key members from office to define priorities for development
- Researched conclusion, compiled a report and action plan and led presentations on findings to enhance organization's planning on fundraising, communication and marketing aiming to double donors in two years

Student Researcher

May 2019 - Aug 2019

Whitman College CS department

Walla Walla, WA

- Coordinated a team of 3 to improve and benchmark a generic library for simulating networks of ordinary and delay differential equations for systems modeling
- Implemented algorithms based on fast-Gillespie methods using C++ and compared with different stochastic methods; Created a set of tests and metrics to evaluate each method's performance on different settings

DAAD Research Assistant

May 2018 - Aug 2018

OvGU Mathematic department

Magdeburg, Germany

- Implemented the Gröbner-free algorithms for detecting binomiality of a polynomial system
- Augmented an algorithm to perform parameterization on a general form of binomial systems
- Completed codes and documentations with tests for package Binomial for Macaulay2 based on C++

PROJECT & LEADERSHIP EXPERIENCE

Kaggle Data Challenge: Riid Answer Correctness Prediction

Oct 2020 - Present

Team lead

New York, NY

- Predicted students' knowledge states using LSBM model on ~100M training data, and boosted model accuracy from 55% to 75% by feature engineering and hyperparameter tuning.

American Crossword Puzzle Solver

Oct 2019 - Mar 2020

Team lead

Walla Walla, WA

- Developed a generic American crossword puzzle solver framework using Python and optimized it to solve a 6x6 puzzle in less than 4 minutes on average
- Scraped over 300,000 clues and words into a general knowledge database for NLP model training

Airbnb LA Price Analysis and Visualization

Mar 2020 - May 2020

Team lead

Walla Walla, WA

- Collected and cleaned more than 30000 entries of listing of LA area that contains order details, reviews, prices, etc. from Inside Airbnb
- Performed exploratory data analysis to identify 5 key factors that impact host revenue and rating, and listing prices; Developed strategy that maximizes host revenue based on analysis

Malaria Cell Image Detection

Oct 2018 - Dec 2018

Team lead

Walla Walla, WA

- Implement Convolution Neural Network and tune hyperparameter using Grid Search achieving 95.8% accuracy

SKILLS

- **Technical Skills:** Python, SQL, C++, R, Java, Tableau, Git, Spark, Julia, Google Cloud, Bash
- **Packages:** Pandas, NumPy, SciPy, StatsModels, scikit-learn, LightGBM, Spark SQL, PyTorch, Plotly