Zhengwei Song

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EDUCATION

Columbia University Medical Center   New York, US
MSc Biostatistics   2022.9 – Present
- Relevant Coursework: Biostatistical Methods, Data Science, Principles of Epidemiology
- Award: AAAI 2022 Security AI Challenger VIII Award (50/3691)

University of Manchester (Two-year Undergraduate Exchange)   Manchester, UK
BSc Mathematics and Statistics, with First Class Honors   2019.9 – 2021.7
- Relevant Coursework: Real Analysis, Statistical Inference, Markov Processes, Probability, Medical Statistics

Shandong University   Jinan, China
BSc Mathematics (Top 20% in GPA)   2017.9 – 2021.6
- Relevant Coursework: Advanced Algebra (Linear Algebra), Mathematical Analysis (Calculus), Elements of Algebra and Geometry
- Award: Academic Scholarship SDU (Top 30% in GPA)

WORK EXPERIENCES

Biostatistics Intern, Roche Diagnostics Shanghai   Shanghai, China
Intern at Medical Scientific Affairs   2022.4 – 2022.9
- Developed statistical methods for analyzing clinical trial data, including the development of novel approaches to address specific research questions and issues with existing methodologies
- Provided statistical support in preparation of regulatory submissions by developing analytical plans, performing analyses, interpreting results, and summarizing findings into concise reports that are understandable to non-statisticians
- Collaborated with the medical team to develop statistical analysis plans for clinical trials, including sample size calculations and power analyses

Data Analyst, Sina Weibo   Beijing, China
Intern at Information System   2021.10 – 2022.4
- Responsible for scraping data, wrangling data, and creating visualization for rankings in the entertainment section, and presented final statistics for several popular TV series, variety shows, and documentary
- Maintained SQL(Hive) and data warehouse services for business parties to support daily needs
- Analyzed user data and modelled user portraits to provide data support for social media influencers and internal operations

RESEARCH EXPERIENCES

Roche Innovation Center Basel, Switzerland   GitHub, Online
R package development for Joint Models Predicting Overall Survival Trajectories   2022.6 – Present
Volunteer Associate, led by Sr. Prin. Data Scientist Daniel Sabanes Bove
- Code R project based on S3&S4 functions for calling RStan
- Study non-linear mixed effects models for the tumor size over time, correlating with overall survival
- Simulate Clinical Data by Bayesian inference using Hamiltonian Monte-Carlo

Faculty of Applied Mathematics, UoM   Manchester, UK
Black-Scholes Pricing Model using Multilevel Monte-Carlo   2020.9 – 2021.6
Undergraduate Thesis, supervised by Professor Kody Law

- Studied Multilevel Monte-Carlo and applied the Euler-Maruyama to solve the discretized linear stochastic differential equations on Ito Integral version
- Implemented Monte-Carlo simulation of expectations with strong and weak rates of convergence using vectorized R code
- Deduced the properties of an independent estimator by a sequence of Monte-Carlo samples
- Applied Multilevel Monte-Carlo to Black-Scholes pricing model and improved computational efficiency

SKILLS

Computer

- R, C, MATLAB, SQL, Microsoft Office, AutoCAD

Computational skills

- Classification/ Regression: linear/logistic, decision tree, gradient boosting, naive Bayes, K-NN
- Dimensionality Reduction: PCA
- Clustering: K-means, hierarchical

EXTRACURRICULAR ACTIVITIES

School of Mathematics, Shandong University   Jinan, China
Edible Tableware based on Finite Element Analysis   2019.4 – 2020.4
Undergraduate Project, supervised by Professor Song Yu

- Led a team of five students with diverse backgrounds and secured full funding (around $900)
- Designed and produced a chopstick-like mold, testing its mechanical characteristics
- Connected and partnered with local restaurants and pubs for testing and review

Project Manager, Enactus   Jinan, China
- Tutored students in budget planning for every program   2018.10 – 2019.10
- Responsible for the entire budget arrangement of the organization
- Award: Enactus Annual Outstanding Individual (Top 10%)

Cultural Advisor, Association of International Exchange   Jinan, China
- Assisted in events and activities for the international student exchange   2017.10 – 2018.10
- Trained students to avoid and bridge the gap of culture shock

ADDITIONAL INFORMATION

- Completed complex hikes with friends across several mountains and national parks, from the UK to Japan, ranging nearly half of the world.