Philip Cao

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EDUCATION

- **Boston University,** Boston, MA **09/2021 – 01/2023**
  Master of Science in Applied Statistics GPA: 3.77/4.0
  Courses: Machine Learning, Applied Statistical Learning, Applied Statistical Modeling, Data Science in R and Python
- **University of Washington,** Seattle, WA **08/2017 – 06/2021**
  Bachelor of Science in Mathematics

SKILLS

- **Technical Skills:** Predictive Modeling, Data Cleansing, Data Visualizations, Machine Learning, Deep Learning, Proficient in Statistics and Probability Concepts
- **Technical Tools:** SQL, Python (Pandas, NumPy, Scikit-Learn, TensorFlow, SciPy, Matplotlib), R, Tableau, Power BI
- **Soft Skills:** Work and communicate cross-functionally, Strong presentation skills, Documentation, Quick self-learning

PROFESSIONAL EXPERIENCE

Gen.video Inc, Boston, United States **07/2022 – 10/2022**
Data Scientist

- Extracted, cleaned, and split over 30,000 bundled e-commerce marketing data using **SQL** and **Python**, helped my team to reach the individual marketing activity level data for the first time
- Implemented **predictive models** (Random Forest, Natural Spline) in **Python** to predict performance metrics of 2000+ influencers in the database, then developed an influencer recommendation algorithm based on predictions
- Evaluated model performances and optimized the models by tuning model parameters, augmenting data set, and applying ensemble methods
- Delivered analytical results and business insights to the stakeholders using **data visualizations** and R Markdown; presented my technical solutions to non-technical audiences in a simple and clear manner

Air Cleaners Inc, Boston**,** United States **01/2022 - 04/2022**
Product Data Analyst

- Contributed to designing a controlled experiment by performing **hypothesis test**; the experiment translated the aerodynamics challenge into an analytical task on the lab data
- Conducted **data cleansing** on over 45,000 time-series data using **R**; made **data visualizations** using **Power BI** to identify the relations between key variables and particle decay rates
- Built **statistical models** (Poisson Regression, Piecewise Linear) in **R** to evaluate how key variables impact the particle decay rates; The model provides a direct quantitative evaluation of its filter efficiency (30 times better)

Institute of Computing Technology, Chinese Academy of Sciences, Beijing, China **11/2020 - 01/2021**
Data Scientist

- Reduced the feature dimensionality from 122 to 34 by the PCA technique, which significantly decreased the model complexity and eliminated multicollinearity between features
- Built **machine learning models** (Logistic model, SVM, KNN) and **deep learning models** in **R** to predict the activities of experimental mice by their neuron activation information; the optimal model has a 98.4% test accuracy
- Utilized **statistical tools** (hypothesis testing, t–test, Fisher's exact test, etc.) to examine and interpret the models, helped the client to locate the neurons that have the strongest association to certain behaviors

ACADEMIC PROJECTS

Statistical Consulting Project: Spatial Analysis **10/2021 - 01/2022**

- Utilized the kriging interpolation technique in **Python** to estimate the tree coverage in Boston; it allowed my team to estimate our variable values over a continuous spatial field even though our data set has a limited size
- Built a **spatial model** to capture the underlying associations between our variables and the number of asthma and mental health cases in Boston, presented analysis results to the clients in a public webinar

LEADERSHIP

Teaching Assistant **09/2022 - Present**

Math 115, Boston University

- Held weekly sections for over 120 students to provide help, feedback, and an open communication pathway in their learning process

Director of Public Resources Department **04/2018 - 02/2021**

Index of Seattle Life, University of Washington

- Developed multiple social events with 200+ attendees to help international students expand their networks
- Planned weekly team-building activities using relationship and communication strategies to encourage collaboration and club loyalty in my team

A FUN FACT OF ME : *I am the guitarist in a trio, we have held two small concerts in Seattle*