

# TIANYI (HARRY) LIANG

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## EDUCATION:

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### **Boston University, Boston, MA**

M.S. Applied Data Analytics (STEM Designated) 2021 - 2023

- Relevant Coursework: *Neural Network with TensorFlow, Machine Learning, Deep Learning, Data Analysis and Visualization, Data Science with Python, Data Structure & Algorithm, Data Mining, Web Analytics and Mining*

### **University of Vermont, Burlington, VT**

B.A. Mathematics | Minor: Computer Science 2017 - 2021

- Teaching Assistant: Intermediate Programming (Python)
- Dean's List Scholarship (2017 – 2021)

## EXPERIENCE:

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*Data Scientist (Full-time)* April 2023 - Present

### **Sunny Properties Inc.**

*Andover, Massachusetts*

- Applied advanced machine learning techniques for housing price prediction, optimizing property investments
- Managed data collection, cleaning, and preprocessing to ensure data quality and reliability
- Developed predictive models, including Linear Regression and Logistic Regression, achieving a 15% increase in accuracy through feature engineering
- Maintained model accuracy by regularly updating them with new data

*Data Scientist Internship (Remote, Internship)* Jun 2022 – April 2023

### **Zhongruan Hengxin (Beijing) Technology Co., Ltd.**

*Beijing, China*

- Collaborated remotely in a data science team of 8 peers under the Technology Department, effectively managing time zone differences and overcoming geographical barriers
- Performed essential data preprocessing tasks via Python and Excel including data cleaning and standardization on VR weekly feeds user behavior datasets from 92 users, subsequently increasing the targeted model's accuracy by 20% through exploratory data analysis, over-sampling and fine-tuning on the targeted model
- Enhanced strategic planning presentations with rich data visualization by forecasting of VR market sale trends via Python and visualizing via Tableau, influenced project directions through active participation in team meetings and presentations, providing findings and assimilating feedback from seniors

## SKILLS:

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Tools: Python, R, SQL/MySQL, Power BI, Tableau, GCP Dataproc, Hadoop, Excel, Java, C++, PowerPoint, Outlook

Packages: Numpy, Scikit-learn, Pandas, SciPy, TensorFlow, Keras, PySpark, MLlib, OpenCV

Proficiency: Machine Learning, Data Mining, Data Cleaning, Data Visualization, Data Analysis, Deep Learning, Neural Network, Object-Oriented Programming, Big Data, Statistical Analysis, Time Series, Predictive Modeling

## PROJECTS:

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### **PowerCo. Price Sensitivity Analysis** | *Python, EDA, Visualization, Machine Learning*

- Developed models to predict customer churn, achieving 100% accuracy with random forest on test set
- Simulated a 20% targeted discount scenario, significantly reducing the churn rate by 65.94%
- Leveraged data-driven decision making to suggest strategies for reducing churn rate

### **Auto Mask Detection on Human Faces** | *Python, Data Cleaning, TensorFlow, Deep Learning, Image Processing*

- Managed analysis of 12,000+ human face labeled images (328.92MB)
- Purged low-res and faceless images, performed regularization and random transformation to boost data quality
- Achieving 99% accuracy with optimizations including kernel initializers, batch normalization, and dropout
- Built User Interface using Python Tkinter, enabling real-time mask detection application through camera feed

### **Airline Passenger Satisfaction Prediction** | *Python, Visualization, Machine Learning*

- Mined 105,722 airline passenger feedbacks, conducted EDA, treated outliers & missing data
- Performed linear independency analysis, PCA feature selection and feature extraction
- Tested multiple models including KNN, Naïve Bayes, Random Forest, Decision Tree, Logistic Regression, SVM & XGBoost, etc., performed fine-tuning, evaluated confusion matrix, and achieved 94% accuracy

## CERTIFICATES & PROFESSIONAL LICENSES:

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- Data Science and Analytics Virtual Internship Experience from Forage
- Data Visualization: Empowering Business with Effective Insights from Forage