

# RISHAB TIRUPATHI

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## Education

### University of Illinois at Urbana-Champaign

Graduation Date: May 2025

Master of Science in Statistics

**Graduate Coursework:** Statistical Learning, Computational Statistics Optimization, Theory of Probability

### University of Illinois at Urbana-Champaign

December 2023

Bachelor of Science in (Highest Distinction) Applied Mathematics, (Highest Distinction) Statistics

Overall GPA: 3.81/4.00

Dean's List, Men's Rugby, Psi Eta Mu Information Sciences Professional Fraternity

**Undergraduate Coursework:** Algorithms and Computing, Linear Algebra, Statistics and Probability, Statistical Modelling, Statistical Analysis, Time Series Analysis, Time Series Machine Learning, Numerical Methods, Stochastic Processes, Linear Programming, Non-Linear Programming, Differential Equations

## Experience

### FrostDefense Envirotech

Champaign, IL

Machine Learning Intern

January 2024 – May 2024

- ❖ Performing data visualization and statistical analysis on temperature data of over 35,000 data points from 1924 to 2023, focusing on frost risk assessment and trend identification through Python
- ❖ Implementing machine learning and deep learning algorithms such as Random Forest and LSTM, to forecast temperature patterns and frost occurrence through time series data with 94% accuracy
- ❖ Developed an automation process in Python of downloading and aggregating data from multiple CSV files into a single dataset

### Chicago Blackhawks

Chicago, IL

Analytics Intern, Business Strategy and Analytics Group

June 2023 - August 2023

- ❖ Implemented and designed SQL and DBT data models of over 1 million ticketing records to support ticket operation analyses and reporting
- ❖ Formulated hypotheses, performed tests, synthesized insights, and effectively delivered recommendations through narratives and presentations to senior leadership
- ❖ Created Python machine learning models to accurately predict future ticket sales and revenue for the upcoming NHL seasons
- ❖ Developed 4 Tableau dashboards for the ticketing department to make data-driven decisions on ticket pricing and sales

### Illinois Geometry Lab

Champaign, IL

Undergraduate Researcher

August 2022 - December 2022

- ❖ Conducted research into Permutations and Shallow Quantum Circuits by analyzing advanced quantum mechanics papers to determine tuning parameters, input configurations, and final measurements of a quantum circuit
- ❖ Presented weekly updates, findings, and insights to the head of the project

### Singapore Armed Forces

Singapore

Platoon Commander, 30 SCE

June 2018 - July 2020

- ❖ Commissioned as a Lieutenant in the Singapore Army and led a platoon of 15 combat engineers in engineering tactics, techniques, and army fundamentals
- ❖ Engaged in various modules taught by experienced senior leadership on personnel management, leadership, and soldier fundamentals
- ❖ Obtained a Band-1 rating of 89% for the first-year army-wide evaluation, and received Battalion Commander's Coin

## Projects

### World Health Organization Life Expectancy Predictor

- ❖ Developed classification and regression models on a World Health Organization dataset to predict Life Expectancy, focusing on Logistic Regression and Random Forest in Python and R
- ❖ Conducted correlation analysis to identify key variables, achieving a classification accuracy of 94.4%
- ❖ Improved model performance by trimming predictors, scaling inputs, and utilizing Random Forest models, resulting 98.3% accuracy

### Monopoly Board Game Simulator

- ❖ Created a Monopoly board game simulator through Python and Matplotlib to determine optimal playing strategies under different scenarios
- ❖ Implemented Python data visualizations to conduct data analysis on property value and return on investment based on the simulations
- ❖ Determined after 100 iterations of 1000 turn games, the ideal properties to buy based on a variable number of players

## Skills

Programming Languages: Git, Python, R, SQL

Software: DBT, Microsoft Excel, Snowflake, Tableau (BI)

Python Libraries: Keras, Matplotlib, NumPy, pandas, scikit-learn, SciPy, seaborn, statsmodels, TensorFlow

R Libraries: dplyr, ggplot2, tidyverse, tsa