

# Bill Zhang

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## EDUCATION

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### University of Illinois Urbana-Champaign (UIUC)

*B.S. in Statistics and Computer Science, Minor in Linguistics and Mathematics* | GPA: 3.9/4.0 Expected May, 2025

**Coursework:** Data Structures, Intro to CS II (C++), Discrete Structures, Software Design Lab, Data Science Discovery, Intro to CS I (Honors), Linear Algebra with Computational Applications, Probability and Statistics I, Calculus III, Calculus II for Engineers

## WORK EXPERIENCE

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### Milliman

*Software Developer Intern - M-PIRe Platform Team*

May 2023 – Aug 2023

- Revamped **20** outdated testing suites with C# and the .NET Core framework to validate the accuracy of forecasts generated through loan insurance econometric machine learning models
- Generated and validated cashflows of different loan and mortgage deal types by running over **50,000 data points** per case through time series cashflow calculators, and utilized **PLINQ library's parallelization** to reduce code runtime by a factor of **2**
- Built over 150 sets of testing data through **SQL queries and Azure Data Studio**, and utilized Newtonsoft to read and deserialize JSON files for model input and expected output
- Developed functions that support multiple deal types on the company's headless API tester using **C# webforms** to automatically POST and GET data for validation, ensuring the API produced correct output while accurately processing data

### Comet

*"Flight Test" Intern*

Sep. 2021 – Dec. 2021

- Participated in **3 user tests** by evaluating user experience and attempting to exploit bugs through following Head Developer
- Wrote feedback reports that targeted product development and UI design through testing and market research of competitors
- Collaborated with engineers and other departments to develop effective strategies and features, such as a system for peer college writing services, and devised future testing plans to further ensure the system

## PROJECTS

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### [Reddit Misinformation Extractor](#) | *Python, Sci-kit Learn, Pandas*

- Implemented a machine learning model using **Sci-kit learn library** that identifies COVID-misinformation in Reddit social media posts, which was used for data analysis and research of misinformation transmission on the internet
- Utilized **bag-of-words technique and TFIDF transformers** to modify textual data to train a **support vector machine classifier**, which eventually achieved above an **82% accuracy**.
- Wrote a python script that incorporated the **Reddit API** to pull posts from certain subreddits every other day to build a training and analysis data set.

### [GeoGenie](#) | *Python, Javascript, CSS, HTML, Sci-kit Learn, Plotly, Pandas, Flask*

- Worked with a team of 4 in a **36-hour hackathon** to develop a **flask website** that used support vector classifiers to predict which country is most suited for a user given input categories
- Trained and tuned the classifier after cleaning, grouping, and merging data from different sources using **pandas**
- Utilized **plotly** to develop a dynamic heatmap graph of the world that displayed the probability of each country's suitability for the user based on the model output

### [Computer Science Principles IDE and Interpreter](#) | *Java, Java Swing, Java AWT*

- Developed a **Java GUI app IDE for a custom programming language** derived off of pseudo-code for teaching purposes, which could also save, load, and run code files
- Built a **code interpreter** that supports loops, dynamic variables, lists, if statements, input and output, and evaluation of coding expressions, which producing syntax and runtime error messages when necessary

## LEADERSHIP

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### **Undergraduate Teaching Assistant, CS 124 Honors, CS 128 Intro to CS II**

Jan. 2023 – Present

- Joined as Project Manager for CS 124H and led a group of introductory computer science students through **weekly sprints** to develop a course data visualization website, while developing code components in **python, flask, matplotlib, and pandas**
- Hosted office hours for 200+ students to teach **git** and support students on weekly **C++** coding assignments and projects

### **Tech Chair, Society of Asian Scientists and Engineers - UIUC Chapter**

Mar. 2023 - Present

- Hosted weekly coding interview prep sessions and events to support students of Asian heritage in future careers
- Designed tools for club operations, including an online attendance tracker in **python, HTML/CSS, and flask**

## SKILLS & INTERESTS

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**Languages:** C++, Python, C#, Java, Kotlin, HTML/CSS, SQL

**Tools:** Git, Github, Docker, .Net Core, Visual Studio, Android Studio, Jupyter Notebook, MongoDB, OpenAI API

**Programming Libraries:** Flask, Pandas, Matplotlib, Numpy, Sci-kit Learn, TailwindCSS, Tensorflow, Bootstrap