

# Bill Zhang

US Citizen | 217-991-0820 | [billjhzhang@gmail.com](mailto:billjhzhang@gmail.com) | [LinkedIn](#) | [GitHub](#) | [Website](#)

## EDUCATION

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

*Masters of Computer Science*

May. 2026

GPA: 4.0/4.0

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

*B.S. in Computer Science and Statistics*

May. 2025

GPA: 3.92/4.0

**Coursework:** Algorithms, Systems Programming, Networks, Database Systems, Computer Architecture, Data Structures, Programming Languages & Compilers, Competitive Coding, Statistical Learning, Data Science, Statistics & Probability II

## WORK EXPERIENCE

### Meta

*Software Engineer Intern - PoGOSTick / Redex Android Compilers Team*

May 2025 - Aug 2025

- Designed a custom graph traversal-driven profiling fuzzer with **0** violations, accelerating Java/Kotlin compiler violation debugging
- Refactored parameter modification optimization passes in **C++** to proactively catch developer errors, lowering crash incidences
- Engineered multiple test suites that resolved key bugs, resulting in a **300+ KB** app size drop and **2%** faster cold starts.

### Capital One

*Machine Learning Intern - Tech Incubator, IFX APEX Recommendation Systems Team*

Sep 2024 - March 2025

- Engineered a **35M** row multimodal embedding dataset via OpenAI CLIP to enhance accuracy of a single-modal transformer model
- Drove a **25x speedup** in image embedding generation through multi-threading a collection script that pulls from AWS S3 Buckets
- Achieved a **98%** speedup in dataset building through parallelizing a Snowflake-Pandas data pipeline with Python Dask
- Clustered **3000+** images to uncover insights in data, optimizing K-Means through tuning UMAP and Spectral Embeddings
- Elevated accuracy by **80%** from baseline for random forest & deep learning models through using the new embedding dataset

### UIUC CS 341: Systems Programming

*Undergraduate Teaching Assistant*

Jan 2025 - May 2025

- Developed weekly systems assignment and pre-labs in Prairielearn using **C** and provided fixes to existing ones
- Assisted **300+** students on assignments through the course online forum and gathered feedback to improve assignments

### CME Group

*Software Engineer Intern - Enterprise Credit Control Team*

May 2024 - Aug 2024

- Revamped fault-tolerant system using **Kafka and Zookeeper** for asynchronous actions, reducing state-saving latency by **99.6%**
- Refactored code to eliminate external dependencies on Redis and Consul, enhancing cloud compatibility for easier migration
- Migrated trading credit-control Java SpringBoot application to **Google Cloud**, enabling parallel instances for auto-scaling
- Resolved a critical production issue by swapping to Kafka, significantly improving system stability and preventing further crashes

### Milliman

*Software Developer Intern - M-PIRe Platform Team*

May 2023 - Aug 2023

- Modernized **20** legacy C# automated testing suites, enhancing forecast accuracy for ML models and accelerating development
- Validated cashflows of over **50,000 data points**, optimizing the code with parallelization to reduce runtime by **50%**
- Built **150+** test sets through SQL queries to Azure Data Studio and deserializing JSON, ensuring accurate model output
- Engineered API test functions, streamlining POSTs/GETs data, validating outputs and reducing testing time by **20%**

## PROJECTS

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

- Deployed a **Sci-kit Learn** model to detect Reddit COVID-misinformation, used for **data analysis** of misinformation spread online
- Leveraged **bag-of-words** and **TFIDF** to train a **Support Vector Machine Classifier**, achieving **82%** accuracy

### [Foliage](#) | *Python, Flask, Javascript, CSS, HTML*

- Collaborated in a team to develop a **web-app developer tool** that visualizes version control through an interactable tree
- Developed the **flask back-end** using **dynamic programming** for optimization, implementing a **git-like** version control
- Designed front-end with **HTML**, **Bootstrap**, and **CSS**, developing **javascript** functions to commit, branch, restore user commits

## SKILLS & INTERESTS

**Languages:** Python, C++, Java, C, C#, SQL, Kotlin, HTML/CSS, Javascript, R, Verilog, MIPS Assembly

**Technologies:** Git, Github, Docker, .NET Core, Visual Studio, MongoDB, Flask, Pandas, Matplotlib, Numpy, Sci-kit Learn, TailwindCSS, Bootstrap, Kafka, Zookeeper, Springboot, Redis, Pytorch, Dask

**Concepts:** Machine Learning, Distributed Systems, Systems, Backend, Full Stack Development, Data Science, Agile Methodologies