

# Tianyi Zheng

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## Education

**University of Pittsburgh**, Pittsburgh, PA

Aug 2020 – Apr 2024

*B.S. Computer Science and B.S. Statistics, Minors in Mathematics and Linguistics*

**GPA:** 3.76/4.0

- Relevant Coursework: Machine Learning, Computer Vision, Algorithm Design, Theory of Computation, Privacy Technologies, Data Structures & Algorithms, Data Science, Applied Regression, Probability, Mathematical Statistics, Stochastic Processes, Mathematical Logic, Computational Linguistics

## Experience

**Youngblood Photonics Lab**, Pittsburgh, PA

Dec 2022 – Present

*Undergraduate Research Assistant*

- Implement simulations of neural network models on analog photonic architectures using PyTorch
- Collect architectural metrics and implement various neural network training algorithms

**University of Pittsburgh**, Pittsburgh, PA

Jan 2021 – Present

*Undergraduate Teaching Assistant*

- Develop, review, and approve practice assignments for students to reinforce lecture topics
- Teach recitations to review practice assignments and programming exercises

**Amazon Web Services**, Seattle, WA

May 2022 – Aug 2022

*Software Development Engineer Intern*

- Worked as an intern on the Distributed Systems Engineering team for DocumentDB
- Set up release monitoring to facilitate software releases and decrease development time

**Pitt English Language Institute Data Mining Group**, Pittsburgh, PA

Jan 2022 – Apr 2022

*Undergraduate Research Assistant*

- Conducted directed research as a member of a computational linguistics research group
- Organized, anonymized, and annotated over 100 GB of speech recordings of English learners

## Projects

**ESL Syntactic Analysis** (Python, Pandas, Matplotlib, Seaborn)

**GitHub:** [bit.ly/3KcUzYI](https://github.com/tianyizheng02/ESL_Syntactic_Analysis)

- Analyzed the syntax of writing samples from English as a Second Language students to determine whether writing syntax varied by native language or English proficiency

**PeopleSoft Bot** (Python)

**GitHub:** [bit.ly/3Klb5Hu](https://github.com/tianyizheng02/PeopleSoft_Bot)

- Developed and hosted a Discord bot to retrieve data from Pitt's student information system
- Provided Pitt students in multiple Discord servers with convenient access to course information

**File Compressor** (C++)

**GitHub:** [git.io/JR3QA](https://github.com/tianyizheng02/File_Compressor)

- Created a terminal app to compress and decompress arbitrary files
- Compressed files by up to 60% using a modified LZW compression algorithm

**$n$ -Gram Speak** (Python)

**GitHub:** [git.io/Jivut](https://github.com/tianyizheng02/n-Gram_Speak)

- Developed a terminal app to generate text that imitates given source material
- Constructed probabilistic  $n$ -gram linguistic models to generate novel text

## Skills

**Languages/Technologies:** Python, R, Java, C++, Git/GitHub, MATLAB, SQLite,  $\text{\LaTeX}$

**Data Science:** Data Visualization, Exploratory Data Analysis, Regression, Classification, Data Scraping

- **Python:** PyTorch, NumPy, Pandas, Matplotlib, Seaborn, SciPy, Scikit-learn

## Activities

**SteelHacks 2023 Hackathon — Planning Committee Organizer**

Dec 2022 – Mar 2023

**She Innovates 2023 Hackathon — Planning Committee Organizer**

Dec 2022 – Feb 2023

**Pitt SCI Academic Council — Student Representative**

Nov 2021 – May 2022

**The Pitt Challenge 2020 Hackathon — 1st Place in Mobile Health Records**

Oct 2020