# Travis Zhang

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## EDUCATION

**CORNELL UNIVERSITY**
MEng in Computer Science
Expected May 2024 | Ithaca, NY

**CORNELL UNIVERSITY**
BS in Computer Science
Expected Dec 2023 | Ithaca, NY
College of Engineering
GPA: 3.80 / 4.0

## LINKS

Github:// zhangtravis
LinkedIn:// travis-zhang

## COURSEWORK

**GRADUATE**
Databases
Computer Vision
Foundations of Robotics

**UNDERGRADUATE**
Operating Systems
Artificial Intelligence Practicum
Large Scale Machine Learning
Analysis of Algorithms
Probability & Statistics
Computer Systems
Computer Vision
Topics in Data Science
Linear Algebra
Differential Equations
Backend Development
OOP and Data Structures
Natural Language Processing *(Teaching Asst 1x)*
Machine Learning *(Teaching Asst 3x)*
Functional Programming *(Teaching Asst 1x)*

## SKILLS

**PROGRAMMING**
Expert:
Java • Python • Numpy • Pytorch
Tensorflow • OCaml • LaTeX • Pandas
Scikit-learn
Intermediate:
C++ • HTML • SQL • CSS • Swift
Familiar:
Android • MySQL

**TECHNOLOGIES**
Docker • Apache Kafka • Redis
Linux • Kubernetes • Apache Flink

## EXPERIENCE

**SPOTIFY** | Machine Learning Engineer Intern
June 2023 - Aug 2023 | New York, NY

- Reduced time to retrieve features for Smart Shuffle ML model from weeks to hours
- Designed and implemented vector hydration and aggregations using Apache Flink
- Developed SQL query to define near-real-time features for improved model recommendations

**MUNICH RE LIFE US** | Data Engineer Intern
June 2022 – Aug 2022 | New York, NY

- Constructed active learning python package to improve ML model performance
- Designed, implemented, and deployed 2 event-driven architectures (Apache Kafka and Redis) for ML product
- Engineered scatter-gather method for Kafka version and compared performances between the two architectures

**INTELLIGENT AUTOMATION INC.** | Software Engineer Intern
June 2021 – Aug 2021 | Rockville, MD

- Built Transient Attribute classifier in Pytorch to help enhance cross-view image geolocalization for satellite imagery
- Applied 2 object detection networks to identify buildings in satellite imagery

## RESEARCH

**CORNELL ML CORE GROUP** | Student Researcher
Sep 2021 - Present | Ithaca, NY

- Developed feature learning methodology to improve object detection in self-driving using repeated past traversals
- Created novel object tracking pipeline for self-driving cars using Transformers to increase tracking performance

## PROJECTS

**BIAS IN ML** | Project Manager

- Collaborated with Munich RE to develop 2+ bias-mitigation techniques in DALL-E + CLIP architecture
- Identified gender biases in movie scripts using 3+ rule-based methods and 2+ ML methods (including sentiment analysis)
- Presented about bias in machine learning to 50+ Cornell students and various companies (including MongoDB)

## PUBLICATIONS

[1] P. Buddareddygari, T. Zhang, Y. Yang, and Y. Ren. Targeted attack on deep rl-based autonomous driving with learned visual patterns. In *2022 International Conference on Robotics and Automation (ICRA)*, pages 10571–10577, 2022.

[2] Y. You, C. P. Phoo, K. Luo, T. Zhang, W.-L. Chao, B. Hariharan, M. Campbell, and K. Q. Weinberger. Unsupervised adaptation from repeated traversals for autonomous driving. *Advances in Neural Information Processing Systems*, 35:27716–27729, 2022.

[3] T. Zhang, K. Luo, C. P. Phoo, Y. You, W.-L. Chao, B. Hariharan, M. Campbell, and K. Q. Weinberger. Unsupervised domain adaptation for self-driving from past traversal features. *Accepted into BRAVO workshop at ICCV*.