

Ethan Walker

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EXPERIENCE

Senior Software Engineer, Full Stack

June 2022 – Present

Techcyte

San Francisco, California (Remote)

- Collaborated with **external partners** to adapt Techcyte cloud services to operate on on-premises hardware
- Designed and Implemented an extensible **automation feature** empowering users to automate actions within the application
- Integrated **semantic segmentation** models into existing machine learning workflow
- Created maintainable infrastructure to deploy machine learning services to AWS with Terraform
- Supported internal data management team with tools to analyze and iterate on machine learning models
- Worked with UX design teams to implement various user interactions and forms

Graduate Teaching Assistant

August 2020 – April 2022

Brigham Young University

Provo, Utah

- Lead classroom instruction on methods in **machine learning, numerical methods, and optimal control**
- Provided instruction on theoretical foundations of various machine learning methods
- Advised students on coding best practices

PROJECTS

Contrastive Deep Semi-Supervised Learning

- Implemented the contrastive learning algorithm SimCLR to train a ResNet based facial recognition algorithm
- Used data augmentation to assist in semi-supervised learning

Effects of Loss on Deep Facial Recognition Models

- Implemented Angular Softmax and Ring Loss for use with ResNet image classifiers
- Examined the resilience of ResNet Models to data bias when trained using these loss functions

EDUCATION

MS, Mathematics

April 2022

Brigham Young University

Provo, Utah

- **Coursework:** Probability Theory, Machine Learning, Analysis, Dynamical Systems
- **Thesis:** Synchronization in Growing Dynamical Networks
- **Published** in the scientific journal Physica A

BS, Applied and Computational Mathematics

April 2020

Brigham Young University

Provo, Utah

- **Coursework:** Machine Learning, Bayesian Statistics, Data Structures, Algorithms, Optimal Control

SKILLS

Languages : Python, Go, TypeScript

Tools : Terraform, AWS, Docker, React