

Zach Preator

Machine Learning Engineer

Clearfield, UT, United States | [LinkedIn](#) | [GitHub](#)

Machine Learning Engineer with 5+ years building production AI systems, from LLM-integrated APIs to large-scale model serving on Kubernetes, combining strong Python development with MLOps practices and physics-based engineering fundamentals.

EXPERIENCE

Senior Machine Learning Engineer

Cricut

Aug 2023 — Present

Utah, United States

Architected production APIs integrating LLMs into backend services and fine-tuned CLIP on real and synthetic data for semantic image search deployed to millions of users via AWS EKS. Built large-scale data pipelines with Apache Spark in AWS Glue for model training and established MLOps workflows using Docker, GitHub Actions, and ArgoCD. Created an internal model-evaluation platform in Streamlit for interactive analysis and stakeholder communication.

Mechanical Engineering Intern

Autoliv

Jun 2020 — Aug 2023

Ogden, Utah

Applied industrial statistics and design of experiments to manufacturing and test data. Built XGBoost time-series models on sensor data to predict physical test curves and designed a semi-automated YOLO-based data annotation pipeline for manufacturing imagery. Developed a CNN-based critical point detection model that reduced analysis time by 80% and shipped a full-stack time-series anomaly detection system with Flask, SQLite, and Plotly handling real-time data from thousands of test deployments.

Engineering Intern

Design Automation Associates Inc

Apr 2019 — Jun 2020

Rexburg, Idaho

Built C# tooling to automate workflows via CAD APIs and developed an AR Android app for 3D assembly visualization.

Tire Technician

Les Schwab Tire Centers

Aug 2018 — Apr 2019

Learned valuable customer communication skills and gained hard work ethic.

EDUCATION

Colorado State University Global

Master's degree in Computer science and artificial intelligence

GPA: 3.84

Jun 2021 — Jun 2024

Colorado State University Global

Master of Science - MS in Machine Learning & AI

Jun 2021 — Jun 2024

Brigham Young University - Idaho

Bachelors in Mechanical Engineering

GPA: 3.78

Aug 2017 — Dec 2020

PROJECTS

Twitter Markov Chain Bot

Created a bot that scrapes twitter posts to compile new and 'funny' twitter posts daily. The project was written in Python and used some open source packages like Tweepy (twitter API for python). Markov Chains are also used to group words by association and give weights to more likely combos. This leads to more 'readable' tweets, but the results are largely just for fun, and rarely make sense. I have plans to do more language processing to form more sensible tweets.

Personal running-form analyzer using pose estimation and point tracking, Runalysis

Applies YOLO pose estimation and point tracking to treadmill footage to extract time-series biomechanical signals (cadence, stride length, ground contact time) and classifies running form with an interpretable Random Forest model.

SKILLS

Convolutional Neural Networks (CNN) · Agentic Workflows · API Development · Large Language Models (LLM) · Recommender Systems · Search · CLIP · Amazon Web Services (AWS) · MLOps · Cloud Strategy · TensorFlow · Object Detection · OpenCV · Presentations · Image Processing · Computer Vision · Data Science · Computer Science · Microsoft Office · Microsoft Excel · Microsoft Word · Research · SolidWorks · Python (Programming Language) · Pandas (Software) · Tkinter · Statistics · Statistical Process Control (SPC) · User Interface Design · Microsoft PowerPoint · Git · C# · Prompt Engineering · Hugging Face · Embeddings · Retrieval-Augmented Generation · SQL · JavaScript · PyTorch · scikit-learn · YOLO · Random Forest · XGBoost · Docker · Kubernetes · ArgoCD · Helm · GitHub Actions · CI/CD · Model Versioning · AWS Glue · Apache Spark ·

