

# Conner Groth

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## EDUCATION

### University of Colorado Boulder

Boulder, CO

*B.S. Computer Science, Minor in Business*

*Expected: 2027*

- Relevant Coursework: Data Structures, Software Development, Computer Systems, Human Computer Interaction, Discrete Structures, Management.

## TECHNICAL SKILLS

**Programming Languages:** Python, C++, C, JavaScript, HTML, CSS

**Machine Learning & Data:** PyTorch, Tensorflow, Langchain, OpenAI API, Hugging Face, Pandas, SQL, PostgreSQL, Redis, NumPy, Matplotlib

**Web & Backend Development:** React, Next.js, FastAPI, Flask, REST APIs

**DevOps & Tools:** Docker, AWS, Git, GitHub, Bash, VSCode

## EXPERIENCE

### Machine Learning Software Research Assistant

April 2025 - Present

*University of Colorado Boulder - Genetic Logic Lab*

*Boulder, CO*

- Developing and enhancing **SeqImprove**, an open-source tool for **ML-assisted** curation of synthetic biology data.
- Implementing machine learning algorithms and **natural language processing (NLP)** techniques, including work with **LLMs** and **named entity recognition (NER)**, entity normalization, and sequence matching.
- Contributing actively to codebase maintenance, software documentation, and deployment processes.

### Software Engineer Team Lead

March 2025 - Present

*Blueprint Boulder*

*Boulder, CO*

- Leading a **software development team** in creating a trailer booking and volunteer scheduling system for **Need Project**, a nonprofit serving families with special needs.
- Serving as the **primary client liaison**, translating project requirements into actionable **technical features**.
- Managing **team workflows**, facilitating meetings, and consistently meeting project deadlines and milestones.

### Frontend Web Developer

May 2023 - Aug 2023

*Ryno Industries*

*Erie, CO*

- Developed and optimized the company website to enhance usability, aesthetic appeal, and performance, resulting in a **20% increase** in user engagement.

## PROJECTS

### EcoVision | *Next.js, React, Firebase, Tailwind CSS, PyTorch, Python, FastAPI*

Mar 2025

- Developed an **AI-powered** recycling assistant that utilizes computer vision to identify recyclable items, providing users with proper disposal guidance and tracking their environmental impact.
- Engineered a **YOLOv8 model** optimized for **AMD's Neural Processing Unit (NPU)**, reducing **power consumption by 20%** while maintaining real-time object detection.
- Leveraged **PyTorch** for model training and inference, incorporating **ChatGPT** for enhanced item information.
- Conducted extensive **model training** and fine-tuning using datasets from Roboflow, achieving **90% detection accuracy** for various recyclable materials.

### AOTY API – Albumoftheyear.org Data API | *Python, FastAPI, PostgreSQL, Redis*

Feb - Mar 2025

- Developed a scalable **API** to scrape, structure, and provide albumoftheyear.org music metadata & user ratings.
- Implemented **FastAPI** with asynchronous request handling to optimize data retrieval performance.
- Designed for seamless integration with Sonance and third-party applications for enhanced music analysis.

### Sonance – Music Recommendation Engine | *Python, FastAPI, PostgreSQL, Redis*

Jan 2025 - Current

- Developing a **machine learning-powered** recommendation system integrating Spotify, Last.fm, and Albumoftheyear **API** data to generate accurate and personalized recommendations.
- Optimizing **data retrieval** and **model performance** using Docker and PostgreSQL.
- Managing **large datasets** efficiently with SQL and Redis caching.