Griffin Burke

(630) 441-5280 | gjburke2@illinois.edu | linkedin.com/in/griffinjburke | github.com/gjburke

EDUCATION

University of Illinois Urbana-Champaign — Expected: May 2027
Bachelor of Science in Computer Science, Minor in Mathematics — *GPA: 4.00*

TECHNICAL SKILLS

Languages: Python, C++, C, Java, Kotlin, TypeScript, Rust, HTML/CSS/JS
Libraries: Keras, Ultralytics, Scikit-learn, NumPy, pandas
Frameworks: React, Flask, React Native, React Redux Toolkit, Express

WORK EXPERIENCE

Kashmir World Foundation — Remote
Machine Learning Engineer Intern — *September 2024 – Present*

Rainforest Initiative
- Conducted initial training and analysis on the efficiency of different sized YOLOV8 models for detecting rainforest species through trail cams, resulting in a compact model with a precision and recall of 88.5% and 88.2%
- Fine-tuned the optimal base model with systematic hyperparameter sweeps and training data augmentation, resulting in a 3.5% increase in precision and recall with 75% less time for training

Bioacoustics Project
- Contributed to the literature review and exploration of the current state of the art bioacoustic models, centered on applying them to bird call classification and embedding
- Engineering the pipeline for rainforest audio analysis, combining the detected species from BirdNET with environmental data from a variety of sources (our own trial information, location and time, weather data, etc)

Illinois Digital Animal Systems Lab — Urbana, IL
Researcher — *January 2025 – Present*
- Developing scripts to extract frames from large ($>$ 200GB) .bag files of overhead cow video, with conversion into color and depth images that will be used for model development
- Will be training, tuning, and implementing a computer vision model to isolate relevant portions of the cow, allowing for higher performance of subsequent weight and body score model predictions

INVOLVEMENT

Project: Code — February 2024 – Present
Project Manager — *September 2024 – Present*
- Leading a project called CompanyMatch, a website that utilizes HuggingFace sentence transformers to recommend companies to users based off of their preferred company values, culture, and environment
- Managing a team of 14, leading weekly stand-ups for both the front and back end teams in order to synchronize learning and development for UI features, API, and model development

Developer — *February 2024 – May 2024*
- Collaborated with a team of 12 over two different development areas to build the UIUC Involvement Bot
- Designed and built the Flask API, website, and two neural networks for sentiment analysis
- Managed project timelines, adapting to changes in my team members and I's schedules, ensuring that development was kept on track

PROJECT HIGHLIGHTS

UIUC Involvement Bot | *Python, Flask, Keras, HTML/CSS/JS, SQLite* — February 2024 – June 2024
- Utilized a full stack of languages and tools to develop the front end, Flask API, and neural networks of a club recommendation website for University of Illinois students
- Developed, trained, and tested two Keras neural network models to determine the user query's club category and intensity level, with accuracies of 89.4% and 95.6%

College Spam Detector | *Python, Scikit-learn, Gmail API* — May 2020 – August 2022
- Implemented the Gmail API and an SVM (Support Vector Machine) through Scikit-learn in an application that reads through user's emails and labels them if they are college spam emails
- Engineered the process of tokenizing, stemming, and vectorizing emails using NLTK in order to process emails from the Gmail API, including more than 500 hand-picked training emails
- Achieved greater than 95% accuracy for the SVM on the validation dataset