Colin Kirby

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Education

University of Central Florida *(GPA 3.78 / 4.0)*　　　　　　　　　　　　　*August 2021 − May 2025*
Bachelor of Science in Computer Engineering　　　　　　　　　　　　　　　　　　*Orlando, FL*
Honors & Awards: Dean's List 2021 , President's Honor Roll 2023 − 2025 , Pegasus Gold Scholarship
Clubs & Extracurriculars: AI @ UCF , Knight Hacks , SHPE @ UCF
Relevant Coursework: Massive Storage & Big Data, Enterprise Computing, Object-Oriented Software Design

Experience

Software Engineering Intern　　　　　　　　　　　　　　　　　　　　　　*May 2024 – June 2025*
BitGo | *Python, Django, React, PostgreSQL, AWS EC2*　　　　　　　　　　　　　　　　*Remote*
- Designed and maintained backend services and REST APIs in Python/Django supporting secure data flows across internal financial/compliance systems.
- Collaborated with senior engineers on system design, requirements, and architecture, contributing to scalable service patterns and data modeling.
- Built internal dashboards using React + Django APIs, improving visibility and operational decision-making across distributed teams.
- Optimized Python data-processing pipelines and PostgreSQL queries, improving system scalability and reducing latency by ~40%.

Projects

SentimentTrader − Real-Time Stock Sentiment Pipeline | *Python, SQL, FinBERT, XGBoost*
- Designed and implemented a full ML-driven data pipeline for real-time sentiment analytics, processing 1K+ Reddit finance posts per run via multi-stage ETL.
- Applied NLP models (FinBERT) and feature engineering to build 40+ predictive features per ticker; trained XGBoost models achieving 55−70% ROC-AUC.
- Built modular components for data ingestion, transformation, model inference, and distributed-style batching, aligned with message-driven architectures.
- Automated end-to-end data collection, preprocessing, and model inference workflows, enabling scalable real-time analytics.

Centi − Personal Finance App | *FastAPI, React, PostgreSQL, Plaid API* | *https://centi.dev*
- Built FastAPI backend services integrating financial data via ETL pipelines and normalized SQL schemas to support real-time account analytics.
- Implemented scalable API endpoints, caching, and data modeling patterns for high-volume financial transactions.
- Developed React dashboards for insights and authentication; deployed via containerized services and cloud-based CI/CD.

ShelfVision − Dense Retail Shelf Object Detector | *PyTorch, ResNet-50, FPN*
- Implemented a custom deep learning object detection pipeline using PyTorch with dynamic IoU matching and modular training loops.
- Handled large-scale vision datasets (11K+ images) via optimized data loaders and GPU-accelerated training.
- Applied ML engineering workflows including dataset preprocessing, hyperparameter tuning, checkpointing, and analysis.

SecureScape − Portable Smart Security System | *Python, Flutter, Arduino C++, TensorFlow Lite*
- Designed async communication layers for distributed IoT nodes, ensuring near real-time (<3.5 s) alert propagation and cross-node synchronization.
- Built fault-tolerant Python backend supporting message handling and system reliability across constrained devices.

Skills

Languages : Python, Java, JavaScript, SQL
Frameworks : Django, FastAPI, React, Node.js, PyTorch, TensorFlow Lite
Data Tools : PostgreSQL, MySQL, MongoDB, Pandas, NumPy, AWS (EC2), ETL Pipelines
Focus Areas : Full-Stack Development, ML/NLP Engineering, REST API Design, UI / UX Design