

ARINA ZHOU

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Availability: May 20 – August 20, 2027

EDUCATION

University of Illinois Urbana-Champaign

B.S. Information Sciences + Data Science, minor in Computer Science GPA: 3.94/4.0

Champaign, IL

Expected May 2028

EXPERIENCE

Software Engineer Intern | *Python, TensorFlow, Linux*

Nighthawk Acoustic Detection System

May 2026 – Aug 2026

Van Doren Lab / Open Source

- Enabled GPU acceleration for an open-source TensorFlow detection system, increasing inference throughput from **4.8×** to **25×** **real time**, a **5.2×** **speedup**.
- Refactored the inference pipeline to remove redundant tensor transformations and improve numerical stability while preserving prediction consistency.
- Built automated CPU/GPU evaluation workflows to validate prediction consistency across execution environments and support reproducible Linux deployment.

Research Software Developer | *React Native, TypeScript, Swift*

Accessible Audio-Haptic Application

Aug 2025 – May 2026

iSchool, UIUC

- Built an end-to-end accessibility application that transformed live audio into synchronized haptic feedback through a modular, event-driven processing pipeline
- Designed asynchronous interfaces between React Native and native Swift modules, enabling low-latency audio processing, feature extraction, and playback.

Software & Data Engineering Intern | *Python, Linux, Raspberry Pi*

Windy City Bird Lab & NRES, UIUC

Jun 2025 – Present

Chicago, IL

- Developed modular Python data pipelines to clean, integrate, and analyze heterogeneous geospatial and sensor datasets from 50+ monitoring sites.
- Automated model-ready feature generation using GeoPandas, Rasterio, and statistical workflows while collaborating with researchers and engineers to validate data quality and analytical results.

PROJECTS

AI Engineering Assistant

| Python, OpenAI API, LangGraph, LangChain, FAISS

Jul 2026

- Built an LLM-powered engineering assistant that indexes software repositories and answers codebase questions using retrieval-augmented generation.
- Implemented a semantic retrieval pipeline with FAISS to chunk and embed source code, retrieve relevant context, and generate grounded debugging recommendations.
- Designed modular LangGraph workflows for repository analysis, semantic code search, debugging assistance, and automated test generation.

Full-Stack Workout Tracking Platform

| React Native, TypeScript, AWS, DynamoDB

Jun 2025 – Oct 2025

- Independently built an end-to-end workout tracking platform with a React Native client, serverless REST APIs, and persistent cloud storage on AWS.
- Designed API endpoints and DynamoDB data models for creating, retrieving, and managing workout and user activity records.
- Implemented asynchronous workflows with Lambda and S3 to decouple background processing from client requests and improve application responsiveness.

TECHNICAL SKILLS

Languages: Python, TypeScript, Java, Swift, SQL, C++, JavaScript

AI/ML: TensorFlow, LLM Applications, Retrieval-Augmented Generation, Model Inference, Model Evaluation, FAISS

Frameworks & Cloud: LangGraph, LangChain, React Native, AWS Lambda, API Gateway, DynamoDB, S3

Developer Tools: Git, GitHub, Linux, REST APIs, Data Structures, Algorithms, Object-Oriented Programming