

# Aiden Barnard

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## EDUCATION

### University of Kansas

Lawrence, KS

*Bachelor of Science in Computer Science, Minor in Spanish* | **GPA: 4.0**

*May 2026*

**Involvements:** ACM, AI Club, Upsilon Pi Epsilon, Honors

**Coursework:** Data Structures & Algorithms, Software Engineering, AI, Databases, Embedded Systems, OS

## PROJECTS

### TuahTone | *Next.js (React), JavaScript, Firebase, Spotify, Lyrist, OpenAI*

April 2025

- Earned **1st place** in Diversity & Inclusion by designing a **language-learning web app** that emphasized accessibility and engagement through UI/UX best practices within a 3-member team
- Implemented **Firebase** for secure authentication and a scalable database, ensuring reliable app performance
- Integrated Spotify & Lyricist API to fetch song lyrics, enabling flashcard generation for over **10 million** songs

### TeroSecureMD | *Next.js (React), JavaScript, Firebase, Pinata, Gemini, Ethereum, NFC*

September 2024

- Architected an NFC-powered patient check-in system using Web NFC API and Firestore security rules, reducing clinic wait times by 80% while enforcing zero-trust data access policies
- Implemented blockchain-anchored audit trails with Pinata/IPFS file storage for immutable medical record metadata, achieving 100% tamper-proof transaction logging during compliance testing
- Implemented a dual authentication portal (patient/doctor) with granular permissions

### Arithmetic Expression Evaluator | *C++*

September – December 2024

- Coordinated the release process for a terminal-based evaluator within a **6-member team** by assigning deliverable timelines and leading functionality testing, ensuring quality and timeliness
- Documented every step of the software development life-cycle to align with stakeholder-driven processes, producing comprehensive deliverables including: requirements, design plans, test cases, implementation, and a user manual
- Delivered a modular architecture with six core components, integrating robust error handling and optimal data structures to enhance scalability, maintainability, and performance

## INVOLVEMENTS

### Lightning Talk: K Nearest Neighbor Algorithm

September 2024

*ACM*

*Lawrence, KS*

- Presented applications and limitations on KNN, with Python demonstrations, to a crowd of **40 attendees**
- Discussed time-space complexity, lazy learning, and its role in supervised machine learning
- Reviewed KD trees, ball trees, and graph structures optimized for large datasets

### Mentor

October 2024 – Present

*Upsilon Pi Epsilon*

*Lawrence, KS*

- Provided guidance on course selection and study resources to promote successful learning
- Advised students on academic opportunities and involvements to enhance professional development
- Facilitated a welcoming environment, encouraging mentee to excel and feel supported

## TECHNICAL SKILLS

**Languages:** Python, C/C++, JavaScript/TypeScript, HTML/CSS, SQL, Swift

**Frameworks:** Next.js, TailwindCSS, SwiftUI, Selenium

**Developer Tools:** Git, Bash, ZSH, Shell Scripts, Firebase, AWS

**Libraries:** React, Pandas, NumPy, BeautifulSoup

## AWARDS AND HONORS

### 1st Place – Diversity in Computing

November 2024

*Hack K-State, Kansas State University*

### Chancellor Merit Scholarship

August 2023 – Present

*University of Kansas*

### Dean's Scholarship

August 2023 – Present

*School of Engineering, University of Kansas*