

Kirby Bach

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EDUCATION

University of Notre Dame | Notre Dame, IN

May 2028

Bachelor of Science

Major: Computer Science

Cumulative GPA: 3.77

EXPERIENCE

Rover House Cleaners | Dallas, Texas

May 2025 – Present

Software Intern

- Designed and deployed an automation workflow to reduce manual data entry and client communication time by 5-10 hours weekly using the OpenPhone and Airtable APIs and Google Apps Script.
- Fixed critical security vulnerabilities in a PHP file that could have exposed the personal information of over a thousand of customers.
- Spearheaded the adoption of GoHighLevel to streamline Virtual Assistant communication, architecting a bi-directional sync with Airtable that unifies disparate lead sources and reduces manual entry.
- Built an AI sales call feedback tool using AWS. Utilized Lambda for compute and SQS for queue management to reliably process and analyze client call transcripts with the OpenAI API.

LEADERSHIP ACTIVITIES AND MEMBERSHIPS

CS For Good Club | Notre Dame, Indiana

January 2026 - Present

President

- Led a student organization dedicated to developing software solutions for local non-profits.
- Oversaw the multiple technical projects, bridging client requirements with student development teams.
- Led communications with community partners to define project scope and ensure successful deployment.

PROJECTS

WorkflowyCLI | Lead Software Developer

January 2026 - Present

- Developed a high-performance CLI for Workflowy in TypeScript, featuring a custom interactive REPL with Unix-style commands (ls, cd, tree) and a modular registry architecture for scalable feature expansion.
- Engineered an optimistic state synchronization engine that eliminates API latency by applying local updates instantly while background processes reconcile data consistency with the remote backend.

DysbTrack | Lead Software Developer

January 2026 - Present

- Architected a gamified productivity tracking platform integrating a WhatsApp bot (Baileys), real-time Next.js dashboard, and Supabase backend, enabling seamless logging across mobile and terminal interfaces.
- Engineered an AI grading engine (GPT-4o-mini) with context aware scoring, dynamic rule precedent storage, and a dispute resolution system that evolves grading criteria based on user appeals.
- Implemented a Service Layer architecture with idempotent message handling, LID/JID identity resolution for cross-device WhatsApp sessions, and Supabase Realtime subscriptions for instant leaderboard updates.

TECHNICAL SKILLS

Technical: Python, AWS, JavaScript, TypeScript, Node.js, React.js, WordPress, MATLAB, HTML, CSS, Excel, SolidWorks, Supabase, Railway, Airtable