Xavier T Reese

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EDUCATION

University of Notre Dame | Notre Dame, IN May 2026
Bachelor of Science | Major: Computer Science | Minor: Energy Studies *GPA: 3.83*
Relevant Coursework: Natural Language Processing, Distributed Systems, Computer Vision, Operating Systems, AI
Policy & Ethics Coursework: Ethical and Professional Issues, Hackers in the Bazaar, Doing Justice
Pontifical Catholic University of Chile |Santiago, Chile February 2025 - July 2025
Semester abroad; all coursework in Spanish, including Chilean Politics and Society and Poverty and Development

EXPERIENCE

Research Fellow | *Mercial AI Safety Initiative* | Remote November 2026 – Present
- Selected for a month-long AI safety research fellowship, contributing to two research streams
- Evaluating AI-generated research on depression as part of a team project on how research produced by AI systems should be verified
- Contributing to an open-source alignment research tool, fixing redaction of overlapping secrets in its data sanitizer

Full Stack Developer | *Freelance* | Remote June 2019 - Present
- Built and shipped web front-end and backend APIs for bp pulse's (formerly Amply Power) EV fleet charge management system, a commercial EV charging platform now operating in 17 U.S. states, using JavaScript and SQL
- Designed authentication and RBAC (role-based access control) systems for Bellwether Coffee, a company which operates across 40 states and 26 countries, creating secure access boundaries for internal tools
- Designed REST API integrations and dashboards for additional clients (Thinx IQ, Veeve) using JavaScript/React, independently working each project from requirements through deployment.

Summer Engineering Intern | *BOSCO Uganda* | Gulu, Uganda June 2023 - July 2023
- Implemented multi-level authentication on a local NAS server for a community hotspot network in rural Gulu.
- Contributed to front-end improvements for the hotspot network's site, working with intermittent power and internet.

Head of Front End Development | *Skis* | South Bend, IN March 2023 – December 2023
- Sole front-end developer for a mobile ski navigation app at a student-founded startup (9+ interns across tech, design, and business), building the client-side UI in Dart/Flutter from Figma prototypes with 100+ prospective users

Teaching Assistant | *CSE Department* | Notre Dame, IN August 2023 - December 2024
- Graded problem sets and exams for 100+ students per course across two semesters of CSE 20110 (Discrete Mathematics) and CSE 30151 (Theory of Computing), focused on automata and formal proofs.

SKILLS

Programming: Python (PyTorch) | JavaScript (React, Node) | C | SQL | Dart/Flutter | HTML/CSS | LLMs
Technical: Error-Correcting Codes | Computer Vision | AI **Language:** Spanish (Proficient)
Tools: WordPress | Mailchimp | Git | Linux | Google Workspace | 3D CAD (SolidWorks)

SELECTED PROJECTS

Wildlife Knowledge Graph | Natural Language Processing Fall 2025
- Benchmarked three locally-hosted LLMs on extraction quality: Phi4 produced the highest-quality but over-resolved entities, Mistral fewer but more reliable relations, and Llama3.1 frequently reversed subject-object pairs under complex prompts; manually graded a sample of extracted relations across five quality tiers

Distributed Job Scheduler | Distributed Systems Spring 2026
- Implemented the central coordinator for a fault-tolerant distributed job scheduler in Python, using a persistent checkpoint log as the single source of truth and tracking workers via heartbeats to detect failures.
- Built automatic re-queuing of crashed jobs and buffering of undelivered results for clients, enabling the system to support 100+ concurrent workers and clients communicating over TCP.

LEADERSHIP AND ACTIVITIES

Resident Assistant | *O'Neill Family Hall* | Notre Dame, IN August 2025 – May 2026
- Mentored and advised 30 first-year residents, mediating interpersonal conflicts and responding to incidents
- Planned and ran weekly community events to support residents' transition to college

Vice President, Trip Leader, Treasurer | *Notre Dame Climbing Club* | Notre Dame, IN January 2023 – May 2026
- Organized multi-day climbing trips, managing logistics, safety, and beginner instruction for a club of 50+ students.
- Grew club participation 5x and organized the fourth annual Gravity Fest climbing competition.