

# MIHIR SAHU

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## EDUCATION

### University of Wisconsin–Madison

Madison, WI

*Bachelor of Science in Computer Science and Data Science; Certificate in Game Design*

*Expected May 2026*

- Dean's List: Fall 2023.
- Relevant Coursework: AI/ML, Data Modeling and Programming, Machine Organization, Operating Systems, Algorithms, UI/UX Development, Database Management System, Game Design, Statistics, Digital Imaging Studio.

## EXPERIENCE

### Capital One

Madison, WI

*Software Engineer Intern (Capstone)*

*February 2026 – Current*

- Architect a serverless, event-driven fraud detection system on AWS (Lambda, API Gateway, EventBridge, DynamoDB) to score transactions in real time and trigger risk-based alerts.
- Implemented asynchronous transaction processing with dynamic per-account fraud thresholds and a 0–1 model-based scoring system, integrating it into a Lambda pipeline that increased processing throughput and enabled real-time fraud decisions.
- Built a Twilio SMS feedback loop to update fraud flags in DynamoDB, speeding up responses to fraud.

### The UW Game Lab

Madison, WI

*Research Assistant*

*January 2026 – Current*

- Prototype short-form analog and digital games modeling recommendation algorithms, echo chambers, and algorithmic bias.
- Run weekly playtests and design iterations within a 5-person interdisciplinary research team on algorithm literacy systems.
- Contribute toward research demos and submissions for IDC and Play Make Learn conferences.

### Sprocket Lab

Madison, WI

*Research Assistant | AI Department*

*September 2025 – Current*

- Built a multi-level RL environment in IsaacGym for quadcopter navigation and obstacle avoidance.
- Integrated VLM-based control, distilled programs, and weak supervision pipelines for hierarchical policy learning.
- Trained and evaluated PPO agents across 100+ randomized episodes using depth-camera input.
- Automated multi-trial experiments and performance visualization (rewards, crashes, successes) to analyze agent behavior.

### AIMitari MedTech Pte Ltd

Singapore

*Software Engineer Intern*

*June 2025 – February 2026*

- Developed an AI-assisted ultrasound guidance system that learns clinician-defined waypoints and scan trajectories, enabling non-experts to reproduce expert scans with high spatial fidelity.
- Built a real-time single-camera perception pipeline (OpenCV, MediaPipe, OCR) performing landmark detection, point verification, and adaptive navigation at interactive frame rates.
- Reduced scan inconsistency and operator error by algorithmically constraining probe motion, improving repeatability.

### AIRO Digital Labs

Gurgaon, India

*Software Engineer Intern*

*May 2024 – July 2024*

- Built a full-stack Generative AI platform (Node.js, React, LLMs) to auto-generate sales pitches, PPT decks, and short videos, reducing manual pitch preparation time by 50%.
- Deployed the application on AWS EC2 + S3, supporting multi-user access with scalable storage and high availability.
- Developed RAG-based chatbots using LangChain and Copilot Studio to improve response relevance and automate queries.

## PROJECTS

### CryptoDash — React, FastAPI, CoinGecko API

Current

- Built a full-stack web app to track cryptocurrency portfolios with real-time market data, historical price charts, and news.
- Integrated CoinGecko API to fetch prices, market caps, volume, and multi-timeframe charts (1D–ALL) using Chart.js.
- Implemented Ethereum wallet tracking to display asset breakdowns, current value, and profit/loss analytics.
- Designed smooth animated UI with React Router and Framer Motion for an interactive user experience.

### Veil — Unity, C#, 2D Horror–Game

2025

- Designed and built a 2D horror game, implementing movement, enemy AI, item systems, and progression logic.
- Architected modular gameplay systems, enabling rapid addition of new mechanics and levels.
- Led UI/UX design including menus, feedback indicators, visual effects, and win/lose states.
- Built scalable, modular game architecture to support new mechanics, interactions, and content as the project grew.

### NOMinate — Flask, OpenAI API, MongoDB

2024

- Built a personalized AI meal recommendation system using OpenAI APIs and MongoDB, adapting to user feedback.
- Integrated ingredient lists for home cooking or nearby takeout.
- Implemented budget, nutrition, and dietary filters, ensuring recommendations aligned with user constraints.
- Designed a persistent feedback loop, refining future recommendations based on user interactions.

## TECHNICAL SKILLS

**Languages:** C/C++, C#, Java, Python, JavaScript, TypeScript, SQL, HTML/CSS, Bash, R, Assembly

**Frameworks & Libraries:** React, Next.js, Django, FastAPI, Flask, JUnit, PyTorch, Spring Boot, Pandas, OpenCV, NumPy

**Technologies & Tools:** Git, Docker, AWS, Google Cloud Platform, MongoDB, MySQL, REST APIs, OpenAI API, Adobe Creative Tools, Kafka, Blockchain, Web3, Unity, GameMaker, Godot