

Zubin Sidhu

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EDUCATION

Purdue University, *B.S. Computer Science, Certificate: Entrepreneurship & Innovation*

Expected Graduation: 05/2028

- **Coursework:** GenAI & RAG Dev, Building CNNs, Data Structures & Algorithms, Algorithm Analysis, Machine Learning, Computer Architecture, Statistical Analysis in R, C Programming, Discrete Math, OOP, Launching Ventures, Linear Algebra
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TECHNICAL SKILLS & CERTIFICATIONS

Languages & Tools: Cursor, Python, Java, Swift, C, JavaScript, R, C++, PyTorch, TensorFlow, CoreML, JMP Statistical Analysis

Topics: Machine Learning, Cybersecurity, NLP, Data Structures, Software Engineering, Finance, Technology in Healthcare

Other: Entrepreneurship, Corporate Finance, Product Design, Archery, Basketball, Technical Writing, Public Speaking

EXPERIENCE

Lakshya Advance Tax Services - *AI Development Intern*

05/2026 to 08/2026

- Developed AI Agents to streamline backend data management increasing client acquisition and analyst efficacy
- Worked directly with the CEO to create end to end AI projects to automate personal workflows and systems
- Spoke to clients on behalf of the company to describe AI developments and reassure privacy of data in new AI developments

AI for Glaucoma Detection - *First Author of Publication, Lead Researcher*

10/2022 to 03/2024

- Achieved 81% accuracy on glaucoma classification from retinal fundus images using self-designed ResNet-50v2 CNNs
- Published in **PubMed-indexed Indian Journal of Ophthalmology**: <https://pmc.ncbi.nlm.nih.gov/articles/PMC11001223/>

Robotics Club - *Co-President & Programming Instructor*

08/2023 to 02/2024

- Taught 30+ students; created training for competitions, focusing on algorithmic thinking and autonomous routines
 - Secured \$500 in sponsorships; launched first on-campus practice arena with full-field robotics components
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PROJECTS

SPARC - *Python/JavaScript*

09/2024 to present

- Built an in-house LLM voice-activated assistant with **real-time web search** and API scraping capabilities
- Designed modular **NLP** and speech synthesis pipeline for voice-based interaction and response delivery
- Incorporated features such as calendar management, study assistance, note management, and technology hub

synapse.ai - *Python/JavaScript*

07/2025 to 11/2025

- Developed a **full-stack AI-powered** news aggregation platform using **FastAPI**, **Next.js**, and **PostgreSQL**
- Delivers real-time curated news with intelligent categorization across AI, finance, politics, technology, and world events
- Implemented advanced summarization and deep-dive analysis features using **LLMs** for multi-level AI explanations

Forecast Fit - *iOS/Swift*

01/2025 to 03/2025

- Developed an intelligent weather-based outfit recommendation engine using **OpenWeatherMap API** and Core ML
- Engineered a dynamic wardrobe system with persistent local storage for personalized recommendations
- Integrated speech-based interactions with **Small Language Models (SLMs)** to enable natural dialogue

Waffle - *Java*

10/2024 to 12/2024

- Engineered core features of private messaging, group chats, live updates, user profiles, friending, blocking, and privacy
- Integrated real-time server connections via socket programming to enable seamless live chat functionality
- Contributed to system design, code reviews, and debugging, ensuring quality project delivery and minimalist design

Zubin's Dungeon Quest, *Self-Taught Developer*

06/2018 to 06/2022

- Developed a top-down, rogue-like game engine with a modular trivia system compatible with **GameMaker Studio 2** projects
 - Engineered a CSV-driven question bank in **D2L format**, enabling seamless import/export and dynamic rendering in **GML**
 - Implemented procedural level generation, enemy AI, and player progression mechanics to enhance replayability
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AWARDS & RECOGNITION

Moonshot Pitch Challenge Finalist

09/2025

IJO Appreciation Certificate - one of the best papers of 2024

04/2024

U18 Papago 900 Archery Gold Medal

06/2023

2021 Congressional App Challenge Winner

02/2022