Diya Bhattarai

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Education

University of Texas at Dallas   **Class of 2028**
B.S. in Computer Science   *Richardson, Texas*

Experience

Exoplanet Group — Undergraduate Research Assistant   April 2025 – Present
- Researching tidal dissipation in exoplanet systems by developing high-precision photometry pipelines for transit analysis.
- Developed and improved the AutoWISP Browser User Interface (BUI), implementing photometry algorithms, image calibration, source extraction, astrometry, and error correction to enable high-precision light curve generation.

RIDE CAVS – Connected Autonomous Vehicle Systems — Software Engineer   May 2025 – Present
- Developed middleware to unify the CPM Lab, Virtual DonkeyCar simulator, and dSPACE platform by synchronizing real and virtual agents through real-time communication and coordination.
- Strengthened skills in systems integration, middleware design, and multi-agent synchronization, enhancing capabilities for managing complex autonomous and robotics platforms.

Code Ninjas — Coding Tutor   February 2023 – June 2025
- Taught block coding, JavaScript, C#, and Python tailored to individual learning styles; created an engaging learning environment.

Projects

OpticNet | *Python, HTML, Tensorflow, Keras, Numpy, Pandas, VSCode*   **October 2024**
- Trained a Convolutional Neural Network (CNN) using TensorFlow and Keras to classify retina images by severity levels.
- Used NumPy and pandas for preprocessing and data analysis; built a simple HTML-based frontend for image uploads.
- Enabled users to upload images and receive instant diagnostic results for early detection of diabetic retinopathy.
- Presented the project at UTD's AIMD competition, judged by professors and industry experts. Won 1st place, and received a cash prize

BreakPoint- HackAI | *Swift, Open Router, Tailwind, React, Vite, Supabase, PostgreSQL*   **April 2025**
- Awarded "Most Creative Project" for Unshackle AI at HackAI 2025.
- Built an AI-powered mobile app using React, Tailwind CSS, and Vite, integrating OpenRouter API for dynamic, WhatsApp-style scenario interactions that analyze manipulation tactics and emotional responses in real time.
- Developed backend logic in TypeScript and Node.js, using Supabase and PostgreSQL for secure data storage, user authentication, emotional tracking, and journaling features.
- Implemented an iOS version in Swift, ensuring native performance and full feature parity with the web app, including gamified progress tracking and offline data handling.

Curio- Axxess Hackathon | *Typescript, VSCode, React, Node, Supabase, Twilio, RespellAI*   **February 2024**
- Engineered a full-stack AI healthcare web app using React.js, TypeScript, and Supabase, integrating SambaNova's medical LLM to deliver real-time, hallucination-free chatbot responses with secure patient data handling.
- Designed and implemented a custom voice-based symptom triage system using Twilio Voice, Respell AI, and Node.js, enabling automated outbound calls and accurate AI-driven voice interactions.
- Created a responsive, Figma-prototyped UI and implemented email automation to deliver personalized AI-generated medical summaries after each call, enhancing accessibility and user follow-through.

Extracurricular

YOLO   **Spring 2025**
ACM + Undergraduate Researcher   *UTD*
- Collaborated on an XR system using dynamic scene graph generation from real-world videos to track human-object interactions..
- Integrated G-Retriever to maintain long-term memory and contextual retrieval of previously seen objects.
- Utilized Unity to build interactive XR environments and implemented Python-based models to extract and track temporal object relationships from video.

Girls Who Code   **Summer 2023- Present**
Member   *Dallas*
- Used javascript and HTML to create various projects and showcased them to professionals in DTCC, enhancing presentation and technical skills
- Collaborated with peers and teams to strengthen programming knowledge and professional teamwork.
- Joined mentorship sessions with industry professionals and was able to learn new technical and career-building skills