# Himal Gautam

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## EDUCATION

**University of North Texas** — Denton, TX
*Bachelor of Science in Computer Science + Geographic Information Systems* — *Expected Dec 2027*
  – GPA: 3.89/4.00, Dean's List

**Caldwell University** — Caldwell, NJ
*Bachelor of Science in Computer Science* — *Jan 2024 – May 2025 (Transferred to UNT)*

## EXPERIENCE

**University of North Texas, College of Engineering** — Denton, TX
*Undergraduate Teaching Assistant, CSCE 1030* — *Present*
  – Deliver personalized support to over **100 students** across 3 lab sections, debugging **C/C++** programs, refining algorithm design, and coaching test-driven habits, contributing to a improvement in average lab scores by **12%**.
  – Design and teach weekly exercises emphasizing problem solving, **modular design, readable code, and version control**; create solution keys and rubrics for consistent grading.

**University of North Texas, College of Liberal Arts and Social Science** — Denton, TX
*Undergraduate Research Assistant* — *Summer 2025*
  – Built an end-to-end geospatial segmentation pipeline using **SAM 2.1 + Segment-Geospatial**: tiled **multi-GB NAIP/CHM GeoTIFFs**, ran batched **PyTorch/CUDA** inference, merged georeferenced masks, and prepared **ArcGIS**-ready outputs for tree-crown mapping.
  – Automated **georeferenced mask merging** and **raster tiling** for large-scale GIS integration, optimizing model throughput by **40%** and adhering to best practices in **software development.**
  – Executed precision validation against field datasets and prepared ArcGIS-ready shapefiles for **downstream ecological modeling**, showcasing strong **problem-solving and technical troubleshooting skills.**

**Caldwell University** — Caldwell, NJ
*Peer Tutor, Academic Success Center* — *Fall 2024*
  – Provided academic support for CS196 (Intro to OOP), CS230 (Front-End Web Development), MA140 (Discrete Mathematics), EN111 (College Writing), CO230 (Communication Skills), and HI102 (History).

**Moksha Enterprises Pvt. Ltd.** — Birendranagar, Nepal
*Co-Founder* — *Jan 2023 – Present*
  – Co-founded a **Geo-ICT startup** specializing in municipal-level **land-use zoning** and **GIS-based planning.**
  – Assisted GIS experts in validating **spatial datasets** using **ArcGIS Pro** and **Google Earth**, ensuring alignment with **field-collected data** and **cadastral layers**.
  – Participated in **on-site field surveys** and meetings with local authorities to verify land classifications and ensure compliance with **national mapping guidelines.**

## PROJECTS

**Kozi.REST – AI Powered Sleeping Tracker** | *Raspberry Pi, ElevenLabs API, Gemini API* — HackUTA
  – Engineered a sleep tracker integrating Pi sensors, environmental monitoring, and AI-driven audio summaries.

**RunSafe – Smart Running Tracker** | *React, Node.js, MongoDB Atlas, APIs* — HackRice
  – Built a full-stack route safety app ranking paths by air-quality exposure, generating weekly health PDFs, and integrating real-time AQI forecasts.

**Baymax – AI Mental Health Assistant** | *React, Express.js, RESTful API, MongoDB, Stripe* — HackDartmouth
  – Engineered a GPT-driven mental-health web assistant with real-time chat, session logging, and secure payment handling through integrated RESTful APIs and cloud database in 24 hours.

**Dristi – Smart Cane** | *Raspberry Pi, GPS, Ultrasonic Sensors, Haptics* — HackPrinceton
  – Engineered a smart cane prototype featuring haptic feedback and real-time alert logic for safe navigation.

## TECHNICAL SKILLS

**Languages & Frameworks**: Python, TypeScript, C/C++, R, PHP, Java, React, Node.js, Express.js, Tailwind CSS
**Technologies & Tools**: ArcGIS Pro, Google Earth Engine, PyTorch, CUDA, Git, REST APIs, Linux, NumPy, Pandas, Matplotlib, MongoDB, SSMS, Lucidchart, PWA, Raspberry Pi