Sanchit Singh

San Diego, CA — sanchittech0.01@gmail.com — (559) 779-2212

sanchitsingh.com — github.com/sanchitsingh001 — linkedin.com/in/sanchitsingh001

Education

San Diego State University   Expected May 2026

Bachelor of Science in Computer Science   GPA: 3.54/4.00 (Major GPA: 3.84/4.00)

Dean's List (Fall 2023, Spring 2024, Fall 2024, Spring 2025, Fall 2025)

Relevant Coursework: Data Structures & Algorithms, Machine Learning, Artificial Intelligence, Computer Architecture, Advanced Programming Languages, Software Systems, Probability/Statistics, Linear Algebra, Calculus, Physics

Awards & Honors

- **Honorable Mention, CRA Outstanding Undergraduate Researcher Award (2026)**.
- Awarded a **$3,000 Seed Fund (2025)** from the Lavin Entrepreneurship Center to support research and development of an independent AI venture.
- **Dean's List (2023–Present)**, San Diego State University — awarded consecutively each semester for academic excellence.
- **Finalist (2025)**, UC Berkeley AI Hackathon — 1 of 9 finalists (top $\approx 2.6\%$) among 350+ projects and 1,400+ participants.
- **TensorFlow Developer Certificate (Mar 2024)**.

Publications

- Aditi Naiknaware*, **Sanchit Singh***, Hajar Homayouni, Salimeh Sekeh. *Temp-SCONE: A Novel Out-of-Distribution Detection and Domain Generalization Framework for Wild Data with Temporal Shift.* NeurIPS 2025 Workshop on Reliable ML for Unreliable Data **(Paper + Poster Presentation, ACCEPTED)**.
- **Sanchit Singh**. *Training-Free Construction of Executable 3D Worlds from Narrative Text.* The 2nd Workshop on World Models: Understanding, Modelling, and Scaling, ICLR 2026 **(Under Review)**.
- Elkins, A. C., **Singh, S.***, Pourebadi, M., Amadasun, U. P., Abhari, K. *Socially Intelligent Robots with Large Behavior Models: Challenges, Strategies, and Future Research Opportunities.* International Conference on Information Systems (ICIS) 2025 **(ACCEPTED)**.
- Elkins, A. C., **Singh, S.***, Pourebadi, M., Amadasun, U. P., Abhari, K. *Designing Socially Grounded Data Pipelines for Training and Operating Socially Intelligent Robots: Challenges and Future Directions.* Hawaii International Conference on System Sciences (HICSS) 2026 **(ACCEPTED)**.
- Elkins, A. C., **Singh, S.***, Blankenship, S., Kieback, A., Amadasun, U. P., Chadha, A. *DAWZY: A New Addition to AI powered "Human in the Loop" Music Co-creation.* NeurIPS 2025 Workshop on AI for Music **(Paper + Demo Track + Poster Presentation, ACCEPTED)**.   *Demo Track – Extended Abstract.*

(* denotes equal contribution)

Research Experience

Socially Intelligent Robots (Multimodal Understanding), James Silberrad Brown Center for Artificial Intelligence at SDSU *Lead Student Researcher*   Aug 2024–May 2025

Advisors: Prof. Mary Pourebadi, Prof. Kaveh Abhari, Prof. Aaron Elkins

- Designed and conducted video question-answering experiments using VLMs (LLaVA) and LLMs (LLaMA) to improve temporal scene understanding, integrating a face recognition module for identity tracking and context-aware response generation.
- Contributed to advancing the lab's vision of enabling socially aware, human-centered robots capable of

understanding and responding to people in real-world environments such as hospitals and mental health settings

Out-of-Distribution Robustness (Temp-SCONE), Sekeh Lab, SDSU *Student Researcher* Feb 2025–Sep 2025

Advisors: Prof. Hajar Homayouni, Prof. Salimeh Sekeh

- Designed and evaluated a Novel Temp-SCONE framework, a temporal extension of SCONE and WOODS for robust OOD detection under evolving distributions.
- Built pipelines with WideResNet and Vision Transformers, training across temporally split datasets (CIFAR-10, CINIC-10, Imagenette)
- Contributed to theoretical analysis of temporal consistency and its relationship to generalization error under domain shifts

DAWZY: Creative AI for Human-AI Collaboration, Independent Research *Independent Research Lead & Equal First Author* Jun 2025–Sep 2025

- Independently conceived and led a research initiative exploring human–AI co-creation in digital audio workstations, focusing on feasibility, design, and the cognitive dimensions of assistive creativity.
- Designed the research and technical framework, implemented experimental prototypes, and conducted user studies to evaluate learning, usability, and collaboration in human-centered creative AI systems.

Privacy in Graph Learning, Privacy and Anonymity Lab (PAL), SDSU *Student Researcher* Jun 2025–Dec 2025

Advisor: Prof. Joann Chen

- Researched node-, edge-, and subgraph-level membership inference attacks on provenance graph datasets using Graph Neural Networks
- Developed unified pipelines with shadow/target splits to evaluate inference attacks across graph granularities

Bioacoustics Representation Learning, MAR Lab, SDSU *Student Researcher* Sep 2025–Present

Advisors: Prof. Hajar Homayouni, Prof. Marie Roch (with San Diego Zoo Wildlife Alliance)

- Applying self-supervised learning to 4 TB of rainforest audio data to cluster and analyze animal vocalizations across species and habitats.
- Developing transformer-based embedding pipelines and attention-guided clustering to detect rare and frequency-specific acoustic events.

Selected Projects

DAWZY — AI Assistant for Music *Project Lead and Developer* 2025

- Developed an AI-powered Digital Audio Workstation that enables beginners to create and edit music through natural language interaction.
- Finalist (1 of 3 in Creative AI Track; 3 tracks total, 9 finalists overall, $\approx$2.6% of 350+ projects) at UC Berkeley AI Hackathon 2025, selected from 1,400+ participants.
- Pitch: YouTube — Submission: Devpost.

Executable 3D Worlds from Narrative Text *Independent Project (Solo)* 2026

- Built a training-free pipeline that converts narrative text into a navigable 3D world in Godot using pre-trained LLMs and text-to-3D APIs. Code: GitHub.