Siddharth(Sid) Sharma

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EDUCATION

UC San Diego **Expected Graduation: December 2025**

B.S. Computer Science

- Cumulative GPA: 3.80/4.0
- Relevant Coursework: Component & Design Techniques for Digital Systems, Advanced Data Structures & Object Oriented Design, Computer Vision I, Computer Organization & System Programming, Design and Algorithm Analysis, Probability and Statistical Methods, Linear Algebra, Discrete Mathematics, Math Algorithms and Systems Analysis, and Physics Mechanics, Electricity & Magnetism
- Certifications: Neural Networks and Deep Learning (DeepLearning AI at Coursera)

EXPERIENCES

Undergrad Researcher – SEELab **March 2024– Present**

- Co-authored a research paper on Multi-Model Inference Composition of Hyperdimensional Computing Ensembles submitted to IEEE (to be published)
- Developed architecture for Ensemble Machine Learning Techniques in Hyperdimensional Computing: specifically bagging and boosting (AdaBoost) using Jax and torchHD frameworks in Python
- Improved state-of-the-art baseline single-instance HDC model accuracy by up to 14% and reduced memory requirements by up to 40x compared to traditional ensemble architectures
- Tested and created visualizations for the designed ensembles on MNIST, CARDIO, ISOLET, & UCIHAR datasets
- Ongoing Research: Authoring a paper on Continual Ensemble Learning for Hyperdimensional Computing

Music Sentiment Analysis **February 2024 – Present**

- Pulled and cleaned artist data and lyrics from Spotify web API and lyricGenius API
- Analyzed data on Track, Danceability, Acousticness, Energy, Valence, Tempo, Loudness, Speechiness, and lyric keywords
- Currently developing a Recursive Neural Network using a PyTorch framework in Python
- Present Goal: enhance categorization of music based on genre and mood through sentiment analysis of song lyrics

TutorLoop Web Application **February 2021 – November 2021**

- Full-stack Development of a Dynamic Calendar Website, aiding a local business during COVID
- Utilized PHP (Hack), CSS, JavaScript, HTML, MySQL, Ajax, and JQuery technologies with CodeIgniter Framework
- Incorporated client feedback, performed unit/alpha testing
- Created use-case documentation video
- Increased student retention & new student influx (by 45% after going live in mid-July)
- More information on my GitHub

SKILLS

- **Languages:** English, Hindi, & Spanish
- **Technical Skills:** Python, Java, C/C++, PHP, HTML/JavaScript/CSS, SQL, Assembly (MIPS), Verilog
- **Hobbies:** Stock Investment & Music
- **Honors:** Provost Honor Award
- **Soft Skills:** Leadership, Team Player, Empathy, Communication, Detail Oriented