Brinda Nallanichakravartula

brinda.nallanic@gmail.com | San Jose, California

EDUCATION

Evergreen Valley High School Class of 2027
GPA: 4.0 weighted/ 3.77 unweighted
Relevant Courses: Python Bootcamp - Udemy, Responsive Web Design - FreeCodeCamp, AP World History, AP Precalculus, AP Physics 1, AP Computer Science Principles, AP Calc AB, AP Literature, AP Physics 2
Clubs: Student Resource Finder (Public Relations Officer)
Portfolio link here: https://github.com/brinda-nch

PROFESSIONAL EXPERIENCE

LLM Researcher | Algoverse AI Research Program **June 2025 - September 2025**

- Trained and fine-tuned Qwen 2.5-7B models with LoRA adapters on math datasets (DeepMath-103K, GSM-Symbolic, AIME-2025), conducting experiments to evaluate whether hyperfitting can improve problem-solving accuracy, with early results showing up to 8% accuracy gains on structured math benchmarks alongside signs of overfitting.
- Benchmarked hyperfitted models against baselines (zero-shot and CoT) on 4 math datasets using pass@k evaluation , demonstrating up to an 10% reduction in error rates on structured problem-solving tasks while uncovering trade-offs such as over-memorization and inductive bias, generating insights to guide hyperfitting toward more reliable and robust LLM reasoning.
- Conducted hyperfitting experiments on 4 math datasets to investigate overfitting versus generalization in LLMs, advancing understanding of robustness and producing findings that form the basis of a forthcoming co-authored paper under submission to arXiv.
- Collaborated with a PhD researcher from Skolkovo Institute to investigate if hyperfitting large language models could enhance reasoning in math and coding, conducting 20+ experiments across three benchmark datasets and launching a novel line of inquiry into AI robustness.

Quantum Computing Researcher | TNHSRP (The Coding School) **June 2025 - July 2025**

- Programmed multiple Variational Quantum Eigensolvers (VQEs) and collaborated in a 3-member team to design a tailored ansatz and custom solver, achieving faster runtimes and up to 10% greater accuracy in molecular ground-state energy calculations.
- Applied Python, Cirq, and qBraid to test quantum algorithms on molecules including H_2, H_2O, and CH_4, conducting over 50 simulations that validated reproducibility and demonstrated the scalability of VQE methods for advancing quantum chemistry research.
- Selected as 1 of 60 students worldwide for a competitive quantum computing research cohort, conducting experiments on Variational Quantum Eigensolvers (VQEs) that achieved more accurate ground-state energy calculations for molecules such as H_2 and CH_4, advancing applications of quantum physics in computer science.
- Prepared research findings for dissemination on arXiv under the mentorship of a UC Berkeley Quantum Computing PhD, contributing innovative evidence on VQE efficiency that advanced the field's understanding of quantum chemistry simulations.

Arduino Programmer | UC Berkeley **February 2025 - May 2025**

- Engineered a smart plant-watering system by programming Arduino and leading development of a custom moisture sensor, creating a prototype that automated irrigation with over 90% accuracy in soil-moisture detection.
- Served as lead presenter at the SWE Symposium, delivering a live demo of the prototype and results to industry professionals, fielding technical Q&A, and articulating design trade-offs and next steps.
- Selected as 1 of 35 students statewide for UC Berkeley's High School Engineering Program (HSEP), gaining hands-on experience in collaborative engineering design and presenting solutions at the SWE Symposium.

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AI Developer | Jaini AI **February 2025 - Present**

- Developed an AI-powered medical assistant to analyze symptoms and interpret medical documents, supporting faster diagnostic decision-making and improving preliminary accuracy in clinical contexts.
- Integrated machine learning algorithms and an accessible user interface, enhancing responsiveness, adaptability to diverse clinical queries, and patient engagement during prototype testing.
- Designed and optimized the user interface with a focus on accessibility and patient engagement, creating an intuitive experience that improved usability scores during prototype testing.
- Executed the full SDLC from requirements gathering through deployment, leading cross-functional design discussions to ensure clinical relevance and real-world usability.
- Led cross-functional product design discussions to align chatbot features with clinical relevance, enabling the assistant to deliver medically meaningful outputs validated by domain experts.

VOLUNTEER WORK

Teens Reach Volunteer | San Jose Public Library **2023 - Present**

- Tutored young students, organized fundraisers, and planned library events.

Tenderfoot Scout | Troop 446 BSA **2021 - 2024**

- Promoted safety and responsibility through community events and outdoor activities.

EXTRACURRICULAR ACTIVITIES

Certified Bharatanatyam Dancer & Instructor | Nritya Gurukul **2016-Present**

- Performed at cultural events
- Taught both group and individual dance classes
- Passed a series of written and practical dance exams (6/7)

Certified Carnatic Vocalist | Sampada **2017-Present**

- Performed at cultural events, and tutored students
- Passed a series of written and practical music exams with distinction

SKILLS AND INTERESTS

- **Technical:** Python, Arduino & Robotics App Development, UI/UX Design, Data Analysis, C++, HTML/CSS.
- **Social:** Leadership, Performer, Team Collaboration, Public Speaking, Event Planning.
- **Language:** Telugu, Hindi, Spanish, English.