

Timothy Do

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Education

San Jose State University

Bachelor of Science in Software Engineering

GPA: 3.83/4.00

San Jose, CA

May 2027

Publications

Timing of Ultrafast Electron and Laser Pulses with Narrowband THz Interferometry for Ultrafast Electron Diffraction

S. Weathersby, T. K. Do, V. Dolgashev, C. Duncan, J. England, P. Kramer, M. Othman, D. Palmer

In Proceedings of 2025 North American Particle Accelerator Conference (NAPAC), Published Paper

ERGO: Entropy-guided Resetting for Generation Optimization in Multi-turn Language Models

H. M. Khalid, A. Jeyaganthan, T. Do, Y. Fu, S. O'Brien, V. Sharma, K. Zhu

To appear in Proceedings of the Second Workshop on Uncertainty-Aware NLP @ EMNLP 2025

Accepted Poster, First Workshop on Multi-Turn Interactions in Large Language Models @ NeurIPS 2025

Accepted Poster, Reliable ML from Unreliable Data @ NeurIPS 2025

Pruning for Performance: Efficient Idiom and Metaphor Classification in Low-Resource Konkani Using mBERT

T. Do, P. Saran, H. Poojary, P. Prabhu, S. O'Brien, V. Sharma, K. Zhu

Accepted Poster, 1st Workshop on Multilingual Data Quality Signals @ COLM 2025, Research Poster

Experience

Science Undergraduate Laboratory Intern | Research Poster

June 2025 — Aug. 2025

SLAC National Accelerator Laboratory

Menlo Park, CA

- Analyzed accelerator data and improved MeV-UED camera time resolution by **33%** using S3DF resources
- Processed and visualized electron beam timing data with Python in Jupyter Notebook environments
- Evaluated ePix and Andor camera results to measure electron arrival and timing jitter precisely
- Optimized terahertz streaking and beamline conditions for advanced electron-photon synchronization studies

Artificial Intelligence Research Intern | Research Paper

May 2025 — July 2025

Algoverse

Remote

- Developed ERGO method achieving **56.6%** average performance improvement over multi-turn baselines
- Recovered **15%** performance drop in multi-turn conversations using entropy-guided prompt restructuring
- Achieved **9.6%** greater performance than single-turn baselines through automated context resetting
- Reduced response variability by **35.3%**, addressing **112%** increase in conversational AI inconsistency

Artificial Intelligence Research Intern | Published Paper

Jan. 2025 — May 2025

Algoverse

Remote

- Utilized a hybrid mBERT+BiLSTM model for figurative language detection, trained on low-resource Konkani
- Achieved an accuracy of **83%** for idiom classification and **78%** for metaphor classification
- Preserved **100%** of original accuracy on idiom classification while pruning attention heads
- Achieved **88%** accuracy retention on metaphor classification tasks through strategic model parameter reduction

Engineering Success Research Intern | Research Poster

Sep. 2023 — April 2024

San Jose State University – Charles W. Davidson College of Engineering

San Jose, CA

- Researched AR technology to simulate physics phenomena, visualizing wave mechanics and 3D vector fields
- Applied Dr. Peter Beyersdorf's research to explore AR's role in immersive and accessible physics education
- Proposed AR-driven virtual labs as a likely cost-effective alternative, with estimated savings of **30%** over 3–5 years
- Tested AR Physics applications on the Meta Quest 3, assessing user interaction and simulation precision

Research Activities

- Reviewer, NeurIPS 2025 Workshop on Multi-Turn Interactions in Large Language Models (MTI-LLM)
- Reviewer, COLM 2025 Workshop on Multimodal Data Quality and Standards (WMDQS)

Technical Skills

Languages: Java, JavaScript, Python, LaTeX, HTML/CSS

Frameworks & Libraries: Next.js, React, React Native, Expo, JavaFX, TailWind CSS, Pytorch, Matplotlib

Databases: Firebase, MongoDB, SQLite

Developer Tools: Git, Visual Studio Code, Eclipse, Scene Builder, SolidWorks, Vercel