Sadman Ahmed **Shanto**

EXPERIMENTAL PHYSICIST BUILDING SUPERCONDUCTING QUANTUM HARDWARE AND DESIGN AUTOMATION TOOLS

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Education

UNIVERSITY OF SOUTHERN CALIFORNIA (USC)

Los Angeles, CA

DOCTOR OF PHILOSOPHY (PHD) IN PHYSICS

2021 – 2026

- Expected Graduation: *December 2026*

TEXAS TECH UNIVERSITY (TTU)

Lubbock, TX

BACHELOR OF SCIENCE (BSC) IN APPLIED PHYSICS

2017 – 2021

- Minors: *Computer Science* and *Mathematics*

Employment

Google

Mountain View, CA, USA

RESEARCH INTERN

Aug. 2025 – Present

- Working on business-critical, confidential R&D systems supporting large-scale Quantum AI simulation workloads.
- Built infrastructure to ensure simulations are never re-run unnecessarily, eliminating redundant compute and improving correctness across the system.
- Automated 10+ complex, multi-tool workflows that had previously required manual execution by domain experts, freeing senior engineers' time and improving overall team throughput.
- Designed and shipped low-latency, reliable simulation pipelines built to scale and recover cleanly from failure.
- Added CI coverage and stress tests for simulation workflows, catching edge cases early and reducing production risk.
- Developed a new approach for large-scale simulations that reduced end-to-end runtime by ∼10×.
- Wrote clear, practical documentation that helped chip designers adopt new tooling, contributing to a ∼3× faster tape-out process.
- Work resulted in $3M+ in monthly compute savings while maintaining reliability and performance.

Quantum Elements Inc.

Thousand Oaks, CA, USA

SUMMER RESEARCH INTERN

May 2025 – Aug. 2025

- Engineered a production-ready agentic AI framework with multi-agent coordination, evaluation, and tracing pipelines for autonomous calibration and diagnostics of superconducting quantum experiments.
- Architected and deployed full-stack backend infrastructure—custom APIs, scalable databases, and containerized microservices on AWS—integrating Quantum Elements' ML models, simulators, and databases with the AI agent ecosystem.
- Built the infrastructure enabling autonomous execution of superconducting quantum experiments, allowing AI agents to calibrate, measure, diagnose, and analyze results through integrated MCP servers and ML-driven control workflows.

Levenson-Falk Lab (LFL), University of Southern California

Los Angeles, CA, USA

GRADUATE RESEARCH ASSISTANT

Jan. 2022 – Present

- Lead developer of *SQuADDS*, an open-source platform accelerating quantum device design from weeks to minutes; widely adopted across research and industry labs for simulation, optimization, and fabrication-ready layout generation.
- Developed and validated high-yield nanofabrication processes for nanobridge-SQUID resonators with 15nm features, scaling functional device yield from <2% to >90%.
- Designed and fabricated superconducting circuits including nanobridge-based resonators, offset-charge-sensitive transmons, and custom Josephson parametric amplifiers for probing quasiparticle dynamics and enhancing qubit readout.
- Engineered full-stack experimental infrastructure—from cryogenic systems (Oxford Instruments, BlueFors) and microwave chains to automated measurement platforms using QUA, Labber, and AlazarTech hardware—integrating parametric sweeps, calibration routines, and advanced packaging for superconducting quantum devices.
- Created a highly accurate Hidden Markov Model (HMM)-based inference pipeline to extract real-time quasiparticle occupation states from I/Q trajectory data, enabling detailed dynamic modeling of QP trapping and release.
- Leading experiments on Andreev bound state spectroscopy and nanoSQUID-based QP traps to investigate and mitigate quasiparticle-induced decoherence in superconducting qubits.
- Extended SQuADDS to support interpretable ML workflows using Kolmogorov-Arnold Networks (KANs) to learn mapping between device geometry and target Hamiltonians.
- Collaborating with NVIDIA and Fermilab to develop explainable AI methods for quantum device design workflows, enabling physics-driven interpretability to uncover design principles and accelerate optimization of superconducting circuits.
- Leading open-source integration of AWS Quantum's EM solver *Palace* with *Quantum-Metal*, enabling scalable cloud-based simulation pipelines for the quantum hardware community.
- Designed and maintain HPC-based simulation and analysis pipelines for TB-scale datasets, optimizing for throughput, fault tolerance, and operational stability.

Advanced Particle Detector Laboratory (APDL), Texas Tech University

Lubbock, TX, USA

Undergraduate Research Assistant

Nov. 2018 – Aug. 2021

- Led end-to-end design of optical system upgrades for muon telescopes; developed custom Winston cones that improved signal efficiency from 20% to 78%.
- Co-designed and assembled both SiPM- and PMT-based muon telescopes; machined 50+ scintillator bars; engineered calibration and installation of 40 SiPMs and 44 PMTs.
- Built DAQ systems using Arduino, CAMAC crates, and custom PCBs with wireless synchronization; implemented multithreaded sync and FPGA logic to reduce channel deadtime by 300x.
- Wrote real-time data acquisition and analysis software, converting raw readout into muon flux maps; deployed automated pipelines on the university HPC, with cloud-style report generation.
- Built and validated full Geant4-based Monte Carlo simulation of the experimental system, including physics modeling of photon scattering and muon interactions.
- Actively involved in multiple data-taking campaigns, including first experimental run; maintained 24/7 operations and emergency response support.
- Developed a custom ML architecture that uses TDC-based photon time-of-propagation measurements to infer depth information, enabling 3D tomographic reconstruction from 2D detector plane data.
- Implemented RNN/LSTM models to recover missing hit data, improving data efficiency and significantly enhancing image resolution from sparse muon events.

Institute for Software Integrated Systems (ISIS), Vanderbilt University

Nashville, TN, USA

Summer Research Intern

Jun. – Aug. 2020

- Built a full-stack calibration pipeline for microscopic traffic models, addressing parameter identifiability and stochastic noise under multi-objective constraints.
- Parallelized simulation-optimization workflows using Ray; achieved 10x+ speedup in sweep-based calibration experiments.
- Designed tools to convert simulation output from the Intelligent Driver Model (IDM) into radar-style datasets for validation against real-world aggregate metrics.
- Contributed to the Flow RL framework, enabling closed-loop learning in calibrated traffic environments; supported end-to-end tuning and evaluation.
- Co-authored a peer-reviewed conference paper on microsimulation calibration using aggregate measurements.

Texas Tech Multidisciplinary Research in Transportation (TechMRT)

Lubbock, TX, USA

Undergraduate Research Assistant

Jan. 2019 – Jun. 2020

- Developed an open-source simulator for heterogeneous AV/HV traffic using an extended Nagel-Schreckenberg CA model; supported both rule-based and learning agents.
- Designed AV control strategies for shared-lane mobility and dynamic lane switching; revealed emergent behaviors like intelligent herding and platoon formation.
- Integrated reinforcement learning for AVs to adapt to local density gradients; demonstrated benefits in flow stability and throughput in multi-lane networks.
- Analyzed macro-scale flow metrics derived from microscopic simulation rules; co-authored a journal paper identifying system-wide effects of AV/HV composition.

Publications

1 Seidel, O., Abouzahr, F., Chakraborty, A., Shanto, S.A., Das, S., Sussman, S., Baxter, D., Asaadi, J., Pancotti, N., Yang, H., Khailany, B., Figueroa-Feliciano, E., Levenson-Falk, E.M., Patti, T.L. **Component-Level Inverse Design of Transmon Qubits Using Neural Networks** *2026*

In Prep.

2 Tang, Y., Shanto, S.A., Wang, K., Pancotti, N., Nonaka, A., Levenson-Falk, E.M., Yao, Z. **AgentQ: An LLM-Agentic Framework for Time-Domain Superconducting Quantum Chip Simulation** *2026*

In Prep.

3 Maurya, V., Kowsari, D., Saurav, K., Shanto, S.A., Vijay, R., Lidar, D.A., Levenson-Falk, E.M. **Universal Hamiltonian control in a planar trimon circuit** *2026*

Under Review at PRX Quantum

4 Levenson-Falk, E.M., Shanto, S.A. **A Review of Design Concerns in Superconducting Quantum Circuits** *2025*

Materials for Quantum Technology

5 Shanto, S.A., Kuo, A., Miyamoto, C., Zhang, H., Maurya, V., Levenson-Falk, E.M. **SQuADDS: A validated design database and simulation workflow for superconducting qubit design** *2024*

Quantum

6 Maurya, V., Zhang, H., Kowsari, D., Kuo, A., Hartsell, D.M., Miyamoto, C., Liu, J., Shanto, S.A., Vlachos, E., Zarassi, A., Murch, K.W., Levenson-Falk, E.M. **On-demand driven dissipation for cavity reset and cooling** *2024*

PRX Quantum

7 Elfeky, B.H., Strickland, W.M., Lee, J., Farmer, J.T., Shanto, S.A., Zarassi, A., Langone, D., Vavilov, M.V., Levenson-Falk, E.M., Shabani, J. **Quasiparticle Dynamics in Epitaxial Al-InAs Planar Josephson Junctions** *2023*
PRX Quantum

8 Farmer, J.T., Zarassi, A., Shanto, S.A., Hartsell, D., Levenson-Falk, E.M. **Electron-phonon interactions in the Andreev bound states of aluminum nanobridge Josephson junctions** *2023*
Physical Review B

9 Shanto, S.A., Gunter, G., Work, D.B., Ramadan, R., Seibold, B. **Challenges of Microsimulation Calibration with Traffic Waves using Aggregate Measurements** *2021*
Transportation Research Board Annual Meeting

10 Perez, R., Shanto, S.A., Moosajee, M., Cano, S. **High-Resolution Muography Using a Prototype Portable Muon Telescope** *2020*
Journal of Undergraduate Reports in Physics

Talks & Presentations

May. 2026	**Invited Talk at U of I Quantum Circuit Conference (UIQC 2026)**, *Towards Generalizable Machine Learning Models for Superconducting QPU Design*	*Urbana-Champaign, USA*
Feb. 2026	**Invited Talk at Lawrence Berkeley National Lab**, *Integrating Superconducting Quantum Chip Design into ARTEMIS Solver*	*Online*
Jan. 2026	**Invited Talks at NVIDIA and Fermilab**, *ML for Quantum Chip Design*	*Online*
2025	**Invited Lectures for Quantum Design Workshop @ UCLA**, *"Learning Inverse Design Maps using ML for Physics Discovery" and "Designing Fabrication-Ready Superconducting Quantum Chips"*	*Los Angeles, USA*
2025	**Invited Lecture for QEE @ USC**, *Introduction to Quantum Device Design*	*Los Angeles, USA*
2025	**SQuADDS: A validated design database and simulation workflow for superconducting qubit design**, *APS Global Physics Summit*	*Anaheim, USA*
2024	**Invited Lecture for Quantum Device Course @ USC**, *Designing a "fab-ready" chip with SQuADDS*	*Los Angeles, USA*
2024	**Invited Lectures**, *Qiskit Fall Fest 2024 on Superconducting Quantum Hardware Research*	*Online*
2024	**Poster and Talk at Lincoln Labs**, *SQUILL User Foundry Meeting*	*Lexington, USA*
2024	**Invited Lectures at Fermilab**, *Qubit Design and ML Summer School*	*Online*
2024	**Going from Hamiltonian to GDS File: An Open Source Package for Generating Qubit Designs**, *APS March Meeting, 2024*	*Minneapolis, USA*
2024	**Invited Talk at Lincoln Labs**, *Introducing SQuADDS*	*Online*
2022-2024	**Invited Lectures on "How to be an Effective TA 101"**, *PHYS 593: Practicum in Teaching Physics and Astronomy,* USC	*Los Angeles, USA*
2023	**Quasiparticle Dynamics in Andreev Bound States Part 2: Photon Interactions**, *APS March Meeting, 2023*	*Las Vegas, USA*
2021	**American Physical Society April Meeting**, *Machine Learning in Muon Tomography Talk*	*Online*
2020	**Physics Departmental Colloquium**, *Dancing in the "Muon" light*	*Lubbock, USA*
	University Research Conference, TTU, *Economic Impact of Quantum Computers*	*Virtual*
	SPS and Women In Physics (WiP) Programming Principles, *Speaker*	*Lubbock, USA*
	SPS and Women In Physics (WiP) Introduction to Programming, *Speaker*	*Lubbock, USA*
	Departmental Poster Competition, Department of Physics and Astronomy, TTU	*Lubbock, USA*
	Quantum 2020 (Institute Of Physics) Virtual Conference, *Analysis of VQE Regimes in NISQ Era*	*Virtual*
	Summer Showcase! at the Institute for Software Integrated Systems	*Tennessee, USA*
	International Symposium on Transportation Data and Modeling (ISTDM), *Postponed*	*Michigan, USA*
	TTU Undergraduate Research Conference, *Muon Tomography Talk*	*Virtual Conference*
	TTU Undergraduate Research Conference, *Autonomous Vehicle Model Poster*	*Virtual Conference*
2019	**Far West Section of American Physical Society (FWSAPS), Stanford University**	*Stanford, USA*
	Texas Section of American Physical Society (TSAPS)	*Lubbock, USA*
	Departmental Poster Competition, Department of Physics and Astronomy, TTU	*Lubbock, USA*
2018	**Undergraduate Colloquium: Programming Principles**, *SPS* TTU	*Lubbock, USA*

Journal Refereeing

Physical Review A	*American Physical Society*
Physical Review B	*American Physical Society*
Physical Review Applied	*American Physical Society*

Leadership & Involvement

Quantum Device Consortium (QDC) — *International*
Board Member — *2025-Present*

`quantum-metal` **(formerly** `qiskit-metal`**)** — *Open Source*
Maintainer — *2025-Present*

Quantum Device Design Workshop (QDW) — *Los Angeles, USA*
Workshop Organizer — *2025-2026*

Quantum Computing Student Association (QCSA) — *Los Angeles, USA*
Board Member — *2025-Present*

Summer of Quantum in LA — *Los Angeles, USA*
Lead Organizer — *2025-Present*

SQuADDS — *Open Source*
Creator and Maintainer — *2024-Present*

Graduate Association of Students in Physics — *California, USA*
President — *2022-2025*

Dornsife Graduate Students Association — *California, USA*
Director — *2023-2025*

Graduate Students Government — *California, USA*
Senator — *2023-2025*

American Physical Society (APS) — *North America*
Member and Student Ambassador (2023-Present) — *2019-Present*

Sigma Pi Sigma Physics Honor Society — *North America*
Member — *2020-Present*

PrivaC Female Only Virtual Hackathon — *Bangladesh*
Team Mentor — *2020*

National Science Foundation (NSF) Regional Innovation Corporations (I-Corps) Program — *Texas, USA*
Entrepreurial Lead — *2019*

Free Market Institute — *Texas, USA*
McLane Political Economy Scholar — *2018 - 2019*

College of Arts & Sciences, TTU — *Lubbock, USA*
Student Ambassador — *2018-2019*

Society of Physics Students (SPS) — *Lubbock, USA*
Public Relations Officer (TTU Chapter) & Member — *2017-2019*

The Quark Newsletter, SPS — *Lubbock, USA*
Officer in Charge — *2018-2019*

Alpha Lambda Delta & Phi Eta Sigma Honor Society (ALD/PES) — *Lubbock, USA*
Social Coordinator Officer (TTU Chapter) — *2018-2019*

Undergraduate Colloquium Series, SPS — *Lubbock, USA*
Initiator and Organizer — *2018*

Red Raider Orientation, TTU — *Lubbock, USA*
Orientation Crew Leader — *2018*

Honors & Awards

2026	**Peer Recognition Award**, *Google Quantum AI*	*Santa Barbara, CA, USA*
2025	**Peer Recognition Award**, *Google Quantum AI*	*Mountain View, CA, USA*
2025	**Best Presenter Award**, *Dornsife Industry Days*	*Los Angeles, CA, USA*
2022 – 2025	**GSG Professional Development Fund Award**	*Los Angeles, CA, USA*
2021 – 2026	**University of Southern California Dornsife College of Arts, Sciences and Letters Graduate Fellowship**	*Los Angeles, CA, USA*
2017 – 2021	**Texas Tech University Presidential Scholarship**	*Lubbock, TX, USA*
2017 – 2021	**Dean's Honor List**, *TTU*	*Lubbock, TX, USA*
2021	**Best Talk in *Economic* Impact**, *Undergraduate Research Conference, TTU*	*Lubbock, TX, USA*
2021	**Best Virtual Presentation in *Economic* Impact**, *Undergraduate Research Conference, TTU*	*Lubbock, TX, USA*
2020	**Certification of Quantum Excellence**, *IBM Qiskit*	*International*
2020	**TrUE Undergraduate Scholar Project Fund**, *Center for Transformative Undergraduate Experiences, TTU*	*Lubbock, TX, USA*
2020	**Second Place for Best Undergraduate Presenter**, *Department of Physics and Astronomy, TTU*	*Lubbock, TX, USA*
2020	**C.C. Schmidt and Alma K. Schmidt Award in Physics**, *Physics and Astronomy Department, TTU*	*Lubbock, TX, USA*
2018-2019	**Bucy Undergraduate Scholarship Physics Award**, *Physics and Astronomy Department, TTU*	*Lubbock, TX, USA*
2018-2019	**Raiders Who Rock: Pursuit of Excellence Award**, *Office of Engagement and Transition, TTU*	*Lubbock, TX, USA*
2019	**Outstanding Student Presenter**, *Texas Section of APS*	*Texas, USA*
2019	**Best Poster Presenter**, *Department of Physics and Astronomy, TTU*	*Lubbock, TX, USA*
2019	**Certified Tutor, Level II**, *College Readiness and Learning Association (CRLA)*	*International*
2019	**Honorable Mention: Best Undergraduate Poster Presenter**, *Far West Section of APS, Stanford University*	*Stanford, CA, USA*
2019	**TrUE Undergraduate Scholar Project Fund**, *Center for Transformative Undergraduate Experiences, TTU*	*Lubbock, TX, USA*
2019	**TrUE Travel Funds Award**, *Center for Transformative Undergraduate Experiences, TTU*	*Lubbock, TX, USA*
2018	**Silver Medal**, *University Physics Competition (UPhysC)*	*International*
2017	**Gangapadhaya Physics Scholarship Award**, *Department of Physics and Astronomy, TTU*	*Lubbock, TX, USA*
2017	**Glen Mann Physics Scholarship Award**, *Department of Physics and Astronomy, TTU*	*Lubbock, TX, USA*

Core Competencies & Technologies

Quantum Design & Control	AlazarTech PCIe Digitizer, Cirq, Labber, OPX+, PennyLane, Qiskit, Qiskit Metal, QUA, scqubits, Zurich Instruments
Layout & Verification	gdsfactory, gdspy, gplugins, KLayout, kfactory, KQCircuits, phidl, Siemens nmDRC, SiEPIC-Tools, SQDMetal
Simulation & Modeling	Ansys HFSS, Ansys Q3D, AWR Office, COMSOL, Elmer, Keysight ADS, meep, Palace, tidy3d
ML Tools	AutoML, HMMLearn, HuggingFace, Hyperopt, interpret, JAX, pyKAN, PyTorch, Ray, Scikit-learn, TensorFlow, TFX
Fabrication & Cleanroom	ALD, CMP, Dicing, EBL, FIB, ICP, Lift-off, Metrology, Photolithography, Profilometry, RIE, SEM, Sputtering, STM
Microwave & Packaging	Cavity Design, CPW and RF Board Layout, Electroplating, JPA Design, Soldering, Wirebonding
Cryogenics & Instrumentation	Bluefors, Cryo Filtering, Helium Compressors, Leak Detection, Oxford Instruments, RF Chain Setup, Vacuum Pumps
Programming & Data Pipelines	Bash, C++, Dash, Julia, Lua, MATLAB, Matplotlib, NumPy, Pandas, Plotly, Python, ROOT, Rust, Seaborn, SQL, SymPy
HPC & Cloud	AWS, Azure, Docker, GCP, Kubernetes, OpenMPI, SLURM
Digital & Embedded Systems	Arduino, FPGA Design, KiCad, LTspice, Raspberry Pi, Verilog, Vivado
Web Tools & APIs	Django, FastAPI, Flask, GraphQL, HTML/CSS, JavaScript, Node.js, REST, WebSockets
Databases & Big Data	Apache Spark, AWS RDS, Hadoop, MongoDB, PostgreSQL
Version Control & DevOps	CI/CD, Gerrit, Git, GitHub, GitLab
Languages	Bengali (Native), English (Native), Hindi (Intermediate), Urdu (Intermediate)

Teaching Experience

University of Southern California — *Los Angeles, CA, USA*

Teaching Assistant, *Fundamentals of Physics II: Electricity and Magnetism* — *Aug. 2021 - May 2022*

- Mentored and led 36 undergraduate engineering students in laboratory sessions
- Covered advanced topics including physical circuit implementation, experimental verification of EM fields, and analysis of RC & LC circuits
- Supervised hands-on experiments with oscilloscopes, function generators, and resonance studies
- Supervising Professor: *Gökhan Esirgen*, PhD

Texas Tech University — *Lubbock, TX, USA*

Teaching Assistant, *Introduction to Quantum Information and Computation* — *Aug. 2020 - Dec. 2020*

- Developed and delivered interactive Jupyter notebooks using IBM's Qiskit for quantum information education
- Created bi-weekly computational assignments covering quantum algorithms and circuit implementation
- Mentored 25+ students in quantum computing projects and provided weekly office hours support
- Covered advanced topics including quantum teleportation, Grover's Algorithm, VQE, and Jordan's Algorithm
- Supervising Professor: *Ismael Regis de-Farias*, PhD

TECHniques Center — *Lubbock, TX, USA*

STEM Peer Tutor — *Jan. 2018 - May 2019*

- Provided specialized tutoring to undergraduate students with learning disabilities
- Achieved Level 2 International Tutor Certification from College Reading & Learning Association (CRLA)
- Completed 670+ hours of student tutoring while maintaining federal confidentiality guidelines
- Tutored advanced topics in Physics, Calculus, Circuits, Programming, and Mathematics

TexPREP (Prefreshman Engineering Program) — *Lubbock, TX, USA*

Course Instructor — *May 2019 - Jul. 2019*

- Designed and delivered curriculum on programming fundamentals using MIT's Scratch IDE
- Introduced middle school students to computational thinking and game design principles
- Managed and trained a team of teaching assistants for after-school tutoring program

Outreach & Community Service

2026	**Delegate, APS Congressional Visits Day**, Promoted APS's mission to Congress	*Washington, DC, USA*
2026	**Invited Representative, APS Annual Leadership Meeting**	*Washington, DC, USA*
2025	**Quantum Engineering Ethics Hackathon Judge**	*Los Angeles, CA, USA*
2025	**Delegate, APS Congressional Visits Day**, Promoted APS's mission to Congress	*Washington, DC, USA*
2025	**Organizer and Canvasser, APS Global Physics Summit**, Helped with programming at the APS Village	*Anaheim, CA, USA*
2025	**Invited Representative, APS Annual Leadership Meeting**	*Washington, DC, USA*
2024	**Organizer and Speaker, USC Graduate Research Symposium**, Led panels, gave keynote	*Los Angeles, CA, USA*
2024	**Candidate, LA Metro Public Safety Advisory Committee**	*Los Angeles, CA, USA*
2024	**Graduate Research Symposium Organizer**, GSG Academic Affairs Committee, USC	*Los Angeles, CA, USA*
2023 - Present	**Reactivated $30,000 Dornsife Umbrella Funds**, Dornsife Graduate Student Association (DGSA), USC	*Los Angeles, CA, USA*
2023 - Present	**Organized LA Physics Graduate Students Soccer Game**, USC, UCLA, Caltech	*LA/Pasadena/Westwood, CA, USA*
2023 - Present	**Organized Annual Departmental Retreat on Catalina Island**, Graduate Association for Students in Physics (GASP), USC	*Los Angeles, CA, USA*
2023	**Dornsife Soccer Tournament Organizing**, Dornsife Graduate Student Association (DGSA), USC	*Los Angeles, CA, USA*
2023	**Launched "The Dornsife Digest" Newsletter**, Dornsife Graduate Student Association (DGSA), USC	*Los Angeles, CA, USA*
2023	**Organized "Dornsife Write-In," "GSG Family Day," and "Dornsife Picnic Day"**, Dornsife Graduate Student Association (DGSA), USC	*Los Angeles, CA, USA*
2022 - Present	**Facilitated Discussions on Student Climate and TA Challenges**, Graduate Student Government (GSG), USC	*Los Angeles, CA, USA*
2022 - 2024	**Representing Dornsife RSOs at GSG Senate Meetings**, Graduate Student Government (GSG), USC	*Los Angeles, CA, USA*
2022 - 2024	**Academic Affairs Committee Member**, Graduate Student Government (GSG), USC	*Los Angeles, CA, USA*
2022 - 2024	**Professional Development Fund Reviewer**, Graduate Student Government (GSG), USC	*Los Angeles, CA, USA*
2022	**Sigma Pi Sigma Congress Poster Judge**, APS, Sigma Pi Sigma	*Online*
2020 - Present	**Training and Professional Development Workshops**, WiP, Texas Tech University	*Lubbock, TX, USA*
2018 - Present	**Volunteering for Wheelchair Dodgeball Events**, South Plains Adaptive Recreation Club	*Lubbock, TX, USA*
2018 - 2021	**Organized Sigma Pi Sigma Physics Poster Session and TTU URC Participation**, Sigma Pi Sigma and Texas Tech University Undergraduate Research Conference (TTU URC)	*Lubbock, TX, USA*
2018 - 2021	**Organized Lubbock High School Science Competition and QuarkNet Program**, Sigma Pi Sigma and Texas Tech University	*Lubbock, TX, USA*