



TECHNICAL SKILLS

- **Academic:** Computer Networks & Distributed Systems and their applications in AI Infrastructure (Systems for AI), AI for Systems & Databases, LLM Inference, VectorDB, Datacenter Networks, Edge Computing, Connected Autonomous Vehicles
- **Languages & Databases:** C/C++, Rust, Python, Bash, Coq, Redis, LevelDB, Cassandra, DynamoDB, Oracle, MySQL
- **Platforms & Tools:** Linux, Network Operating Systems, ROS, Supercomputers (TACC), AWS, Azure, GCP, Docker, Git
- **Highlights:** Applied AI for Systems, Query processing, Key-value Pair Storage, Vector Database, Advanced Network Protocols, Network Security, Hashing Algorithms, Workload Characterization & Balancing, ML System Design, LLM Inference, Content Delivery Network, Quantum Networks, Programmable Switches, Edge-Cloud Systems, Vehicle Computing

EDUCATION

- **University of California, Santa Cruz (UCSC)** San Francisco Bay Area
• *Ph.D. in Computer Science and Engineering; Regents Fellowship; BE Dean's Fellowship* 2023 - present
Relevant Courses: Adv Computer Networks, Network Security, Adv Computer Architecture, Adv Distributed Systems, Adv Stream Processing, Programming Languages, Adv Machine Learning, Adv Natural Language Processing, Adv Artificial Intelligence
- **University of North Texas (UNT)** Dallas - Fort Worth
• *B.S. in Computer Science; GPA: 4.0; Outstanding Award (Top 1 of Class 2023); President's List* 2020 - 2023
Relevant Courses: Algorithms, Machine Learning, Software Engineering, Systems Programming, Database Systems, Computer Networks, Computer Security, Operating Systems, Probability Models, Linear Algebra, IT Project Management, Technical Writing
- **King's College London (KCL)** London, United Kingdom
• *Visiting Student in Computer Science; Scored: 95/100; JEISE Government Scholarship* 2019

WORKING EXPERIENCE

- **Graduate Student Researcher** Baskin School of Engineering, UCSC June. 2023 - present
- **NSF REU Research Mentor** The VEC Lab, NSF eCAT Center Jun. 2022 - Aug. 2022
- **Research Assistant** Department of Computer Science and Engineering, UNT Dec. 2021 - May. 2023
- **Full-stack Web Engineer** DS Creative Office, UNT Sept. 2021 - Jan. 2022

SELECTED PROJECTS

- **Resource Storage and Discovery in Network and Database Systems — C/C++, Rust** 2023 - present
Qian Lab, <https://users.soe.ucsc.edu/~qian/>
 - Investigate fundamental problems in emerging networks, e.g., Data Center Networks, CDN, Quantum Networks
 - Design and optimize network protocols, routing algorithms, hash functions, and load balancers for Enterprise Infrastructures, e.g., Network Switches, HPC Clusters, IoT
 - Implement and evaluate Network and Database Systems in event-driven simulators, server clusters, and Clouds.
 - Proposed the first Distributed Learned Hash Table with LEAD, a novel system incorporating learned models within DHT structures to significantly optimize range query performance. LEAD achieves tremendous advantages in system efficiency compared to existing range query methods in large-scale distributed systems while maintaining high scalability and resilience to network churn. (<https://github.com/ShengzeWang/LEAD>)
- **Vehicular Edge Computing and Connected Autonomous Vehicles — Python, ROS** 2021 - 2023
NSF eCAT Center for Electric, Connected and Autonomous Technologies, <https://www.ecat.center/>
 - Profiled the hardware resource utilization of real-time detectors such as Yolo, Faster R-CNN, and SSD.
 - Assessed variations such as quantization, architectural reduction, and floating point precision reduction.
 - Characterized memory contention into three behaviors and quantified the impacts of memory contention for CAVs.
 - Engineered features and modeled the workload behavior for the Edge based on the device configurations.
 - Implemented and tested the Vehicle-to-edge (V2X) communication solutions on edge nodes with AWS Edge Services.
- **False Discovery Rates(FDR) Control in Metaproteomics Search — C++, Python** 2021 - 2023
Center for Computational Epidemiology and Response Analysis (CeCERA), <https://cerl.unt.edu/>
 - Applied computational methodologies and probability models to address FDR estimation bias in metaproteomics studies.
 - Developed the first fine-grained FDR assessment framework with an open-source tool FineFDR to filter the Comet and Percolator results in different taxonomic ranks. (<https://github.com/Biocomputing-Research-Group/FDR>)
 - Proposed Expectation-maximization General-mixture model for clustering proteomic samples based on abundances.
 - Evaluated six FDR control solutions on 10 datasets. Our novel fine-grained frameworks achieved higher precision, and more peptide and protein identifications compared to state-of-the-art methods such as Comet, Percolator, and Tailor.
- **Fatigue Detection for Medical Staffs:** Constructed a face-masked data set and trained the CNN model for face-masked facial landmarks detection and the LSTM network to measure PERCLOS. (Registered patent: 2020SR1233854)
- **DeepEmo.tech:** A real-time facial expression recognition WebApp using Tiny Face Detector and SSD MobileNet.
- **Intelligent Traffic Management System:** Designed an effective traffic signal control solution for traffic congestion control in smart cities using Reinforcement Learning and Computer Vision. (Registered patent: 2020SR1235776)

SELECTED PUBLICATIONS

- **A Distributed Learned Hash Table** September. 2024
Submitted to 2024 International Conference on Very Large Databases (VLDB) *First Author*
- **Poster: Distributed Learned Hash Table** September. 2024
Accepted by 2024 IEEE International Conference on Network Protocols (ICNP) *First Author*
- **CALID: Collaborative Accelerate LLM Inference with Draft Model with Filter Decoding** August. 2024
Accepted by BayLearn 2024 - Machine Learning Symposium *Co-Author*
- **Improving the Faithfulness of LLM-based Summarization with Unlikelihood Training** July. 2024
Accepted by BayLearn 2024 - Machine Learning Symposium *Co-Author*
- **Perception Workload Characterization and Prediction on the Vehicular Edges** July. 2023
2023 IEEE International Conference on Edge Computing (EDGE) *Co-First Author*
- **Fine-grained Taxonomy-specific False Discovery Rates Control in Metaproteomics** Nov. 2022
2022 IEEE International Conference on Bioinformatics and Biomedicine (BIBM) *First Author & Oral*
- **Applications of Computer Vision Techniques in Industrial Fields: A Review** Apr. 2021
Journal of Network Security Technology & Application, 2021 (04), ISSN 1009-6833 *First Author*

PROFESSIONAL SERVICES

- **Reviewer** IEEE Transactions on Dependable and Secure Computing (TDSC)
- **Reviewer** IEEE International Conference on Computer Communications (INFOCOM)
- **Teaching Assistant** CSE 13S: Computer Systems and C Programming - 2023 Winter
- **Mentor** NSF Research Experiences for Undergraduates (REU) in Vehicular Edge Computing and Security