Mohammad Sadegh Sirjani

San Antonio, TX, USA
mohammadsadegh.sirjani@utsa.edu
https://msadeqsirjani.com

Education

Ph.D., Computer Science Jan. 2025 - Present
University of Texas at San Antonio, GPA: 4.0/4.0

B.Sc., Computer Engineering Sep. 2018 - Feb. 2024
Ferdowsi University of Mashhad, Cumulative GPA: 3.01/4, Last 60 Credits: 3.89/4

Research Interests

Internet of Things	Tiny AI	Edge AI
Embedded Systems	Energy Harvesting	Intermittent Computing

Research Experience

Research Assistant Jan 2025 - Present
ASIC Laboratory, USA

- Developing energy-efficient neural network accelerators for edge AI applications on IoT devices.
- Investigating ultra-low-power ML inference using hardware-software co-design approaches.

Research Assistant Aug. 2022 - Jan. 2024
Software Quality Laboratory, Iran

- Analyzed Java application execution traces using XRebel and JRebel for software enhancement.
- Developed code analysis techniques to identify class, interface, and enum connections.
- Built tool for recommending microservice migration strategies from monolithic codebases.

Research Assistant Dec. 2023 – Aug. 2024
Web Technology Laboratory, Iran

- Designed database structure and web-based API for psychological survey data collection.
- Integrated LLMs to generate enhanced client assessment reports from survey data.
- Successfully deployed production application through iterative prompt engineering refinements.

Publications

1. **Sirjani, M. S.**, Maleki, A., Pakmehr, A., Abedini Bagha, M., Ghaffari, A., & Pour Haji Kazem, A. A. (2025). "Controller placement in software-defined networks using reinforcement learning and metaheuristics", *Cluster Computing*, 28(10), 660, https://doi.org/10.1007/s10586-025-05331-y.
2. **Sirjani, M. S.**, & Sobati-Moghadam, S. (2025). "Optimizing Task Scheduling in Fog Computing with Deadline Awareness". *arXiv preprint arXiv:2509.07378*, https://arxiv.org/abs/2509.07378.
3. Ghaffari, A., Firuzi, V., Maleki, A., **Sirjani, M. S.**, & Abedini Bagha, M. (2024). "QTE-IoT: Q-Learning-Based Task Scheduling Scheme to Enhance Energy Consumption and QoS in IoT Environments". *Sustainable Computing: Informatics and Systems Journal* (under revision).
4. **Sirjani, M. S.**, Mousavi, S. A., & Sadeghi, M. (2024), "Data mining and cloud computing for customer pattern analysis and value maximization". In Proceedings of the *QICAR Conference* (pp. 339-344). IEEE. https://doi.org/10.1109/QICAR61538.2024.10496623

5. Mousavi, S. A., **Sirjani, M. S.**, Bozorg Zadeh Razavi, S. J., & Nikooghadam, M. (2023), "Sec-Vanet: Provably secure authentication protocol for sending emergency events in VANET". In Proceedings of the *IKT Conference* (pp. 86-91). IEEE. https://doi.org/10.1109/IKT62039.2023.10433027
6. Mousavi, S. A., Sadeghi, M., & **Sirjani, M. S.** (2023). "A comparative evaluation of machine learning algorithms for IDS in IoT networks". In Proceedings of the *IKT Conference* (pp. 168-174). IEEE. https://doi.org/10.1109/IKT62039.2023.10433047

Award & Honors

- Winner of 2-Minute Video Presentation Contest at DAC 2025
- Selected as a DAC Young Fellow – 62nd Design Automation Conference (DAC), 2025

Teaching Experience

- **Fundamentals of Operating Systems** (Fall 2025) – Dr. Sam Silvestro, UTSA
- **Data Science** (Summer 2025) – Dr. Amin Sahba, UTSA
- **Computer Organization** (Summer 2025) – Dr. Subhasish Das, UTSA
- **Fundamentals of Operating Systems** (Spring 2025) – Dr. Mimi Xie, UTSA
- **Fundamentals of Cloud Computing** (Spring 2024) – Dr. Somayeh Sobati-Moghadam, FUM
- **Principles of Compiler Design** (Fall 2023) – Dr. Haleh Amintoosi, FUM
- **Fundamentals of Data Mining** (Fall 2023) – Dr. Behshid Behkamal, FUM
- **Fundamentals of Cloud Computing** (Fall 2023) – Dr. Somayeh Sobati-Moghadam, FUM
- **Principles of Compiler Design** (Spring 2023) – Dr. Haleh Amintoosi, FUM
- **Principles of Web Development** (Spring 2023, Fall 2022) – Dr. Somayeh Sobati-Moghadam, FUM

Technical Skills

- **Programming Languages:** Python, C, C++, C#
- **ML/DL Frameworks:** TensorFlow, PyTorch, Keras, scikit-learn
- **IoT Protocols:** MQTT
- **Embedded Platforms:** Raspberry Pi 5, Arduino, STM32 ARM Cortex M4, MSP430FR5994
- **Tools & Technologies:** Docker, Kubernetes, Git, CUDA

Hobbies

Reading classic literature, Learning new languages, Gardening, and horticulture