

# MARYAM GHORBANVIRDI

## Ph.D. Student

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**Research: Differential Privacy, Autonomous Systems, Security**

📍 The George Washington University

## EDUCATION

M.Sc. in Electrical Engineering- Telecommunication Systems

**Imam Reza International University, Iran**

📅 Sept 2016 – Sept 2019

Thesis title: Energy Efficient Centralized Multiple Clustering Using Grey Wolf Algorithm in Wireless Sensor Network

B.Sc. in Electrical Engineering- Telecommunication Engineering

**University of Birjand, Iran**

📅 Sept 2009 – Sept 2013

Thesis title: Wireless Sensor Networks

## EXPERIENCE

Research Assistant

**The George Washington University**

📅 2023 – Ongoing

📍 USA

- Research differential privacy and its use in security.
- Develop privacy-preserving algorithms for autonomous systems.
- Analyze system vulnerabilities and propose solutions.
- Implement and test security protocols.

System Analyst

**BEHSA (Behpardaz Hamrah Samaneh Aval) Corp.**

📅 2019 – 2023

📍 IRAN

- Assess and improve systems to meet organizational needs.
- Define goals, gather requirements, and resolve issues.
- Collaborate with stakeholders and IT teams.

## POSTER PRESENTATIONS

NSF Cyber-Physical Systems PI' Meeting

**Vanderbilt University, Nashville, TN**

📅 March 2025

📍 USA

Poster Title: Indistinguishability: Applying Differential Privacy Models to Protect Runtime Timing Behaviors

TPDP 2025 - Theory and Practice of Differential Privacy

**Google Mountain View**

📅 June 2025

📍 USA

Poster Title: Indistinguishability: Differential Privacy Models to Protect Runtime Timing Behaviors

## PUBLICATIONS

### 📄 Journal Articles

- M. Ghorbanviridi and S. M. Mazinani, "Energy efficient multi-clustering using grey wolf optimizer in wireless sensor network," *IJICTR*, vol. 14, 2021.

### 👥 Conference Proceedings

- M. Ghorbanviridi and S. M. Mazinani, "EEMC: Energy efficient multi-clustering using grey wolf optimizer in WSNs," in *ICCKE*, 2021.

### Under Submission

- SoK: A Practical Black-Box Framework for Evaluating Differential Privacy in Cyber-Physical Systems

## SKILLS

Research Skills:

Differential Privacy Technical Writing  
Data Privacy Techniques Presentation  
Literature Review Statistical Analysis

Tools:

Python Linux GitHub LaTeX

## ADVISOR

**Prof. Sibin Mohan**

The George Washington University

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