

I received my Ph.D. in Computer Science from Wayne State University, where I conducted my doctoral research under the supervision of [Dr. Daniel Grosu](#) in the Parallel and Distributed Computing Lab. I earned my B.Sc. in Mathematics from Shahid Beheshti University in 2011 and my M.Sc. in Mathematics from Sharif University of Technology in 2013. I am also a student member of the ACM and IEEE.

Research Interests

Edge Computing, Cloud Computing, Parallel Algorithms, Randomized Algorithms, Approximation Algorithms, Applied Machine Learning, Game Theory

Research Significance

My research direction lies in the fields of algorithm design, combinatorial optimization, and applied machine learning/AI. I specialize in developing innovative solutions for edge computing, large-scale graph algorithms, predictive modeling, and AI-driven applications. In the realm of Edge computing, I have designed several offline and online algorithms for task allocation in edge computing systems, considering the data sharing among tasks offloaded to the same server. These works received **the 2024 NCWIT AiC Collegiate Award - Honorable Mention** from the National Center for Women & Information Technology (NCWIT) and **the 2025 Ralph H. Kummner Distinguished Achievement Award** from Wayne State University due to their innovative contributions to the fields of Algorithms and Edge computing systems.

Within combinatorial optimization problems, we have introduced several innovative algorithms (sequential, parallel, and randomized) for graph compression, which involve partitioning the graph into bipartite cliques. To conduct a comprehensive experimental analysis of my research, I have utilized resources such as Wayne State University's supercomputer (Grid) and the Pittsburgh Supercomputing Center (Bridges-2). Additionally, my research has involved the technical use of various programming languages, including Java, C++, C, Python, R, OpenMP, MPI, and SQL.

In addition to algorithmic research, I have applied machine learning and deep learning techniques to solve real-world problems, including spatio-temporal forecasting, handwriting recognition, and NLP/LLM-based tools for equity research.

Looking forward, I am deeply excited about the potential for further innovation within the fields of algorithms, Edge computing, Applied Machine Learning, and AI. My aspiration is to design and develop algorithms that not only address theoretical challenges but also have a tangible impact on practical applications.