

Sina Heidari

Curriculum Vitae

Personal Information

Email Address	sina1997heidari@gmail.com
Personal Page	https://s1naheidari.github.io
Github Page	https://github.com/S1naHeidari
Google Scholar	https://scholar.google.com/citations?user=-NFnSYgAAAAJ&hl=en&oi=ao
Researchgate	https://www.researchgate.net/profile/Sina-Heidari-7

Education

Virginia Tech	BLACKSBURG, UNITED STATES
PhD	2024 – present
<i>Major:</i> Computer Science and Applications	
<i>GPA:</i> A	
University of Zanjan	ZANJAN, IRAN
Master's degree in Computer Software Engineering	2021 – 2023
<i>GPA:</i> 18.19 (out of 20); 4 (out of 4 using WES insturction)	
<i>Rank:</i> 1st in class	
<i>Graduation:</i> April 2024 (anticipated)	
University of Kurdistan	SANANDAJ, IRAN
Bachelor degree in Computer Software Engineering	2016 – 2021
<i>GPA (last two years):</i> 3.57 (out of 4 using WES insturction)	
<i>Overall GPA:</i> 15.79 (out of 20)	

Research Interests

- Computational Biology
 - AI-enabled Drug Discovery
 - Distributed (Cloud) Systems
 - High-performance Computing
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Publications

Heterogeneity-aware Load Balancing in Serverless Computing Environments	2023
<i>Authors:</i> Sina Heidari, Sadoon Azizi	
<i>Conference:</i> The 7th International Conference on Internet of Things and Its Applications	
<i>Status:</i> Published by IEEE	
<i>Link:</i> https://ieeexplore.ieee.org/document/10365354	

Research Experience

Graduate Research	
Performance Engineering for Emerging Architectures Laboratory (PEARL)	2024 – present
<i>Supervisor:</i> Prof. Dimitrios Nikolopoulos	
<i>Broad Research Area:</i> Computational Biology, AI-enabled Drug Discovery	
<i>Specific Research Focus:</i> Computaional Systems Biology (Large-scale Processing of Graph Neural Networks), Sturcture-based Drug Design	
<i>Dissertation Title:</i> TBD	
<i>Dissertation Approach:</i> TBD	
<i>Additional Research Areas:</i> Molecular Dynamics, Computational Optimization	
<i>Technical Skills:</i> CUDA, OpenCL, CYCL, Neural Networks, Foundation Models	

Graduate Research

Distributed Computing Systems Research Laboratory (DCS Lab)

2020 – present

Supervisors: Dr. Sadoon Azizi, Dr. Majid Meghdadi

Broad Research Area: Serverless Computing

Specific Research Focus: Autonomous resource scheduling in serverless computing environments

Thesis Title: QoS-aware and Energy-efficient Resource Scheduling in Serverless Computing Environments

Thesis Approach: Developing deep reinforcement learning agents capable of intelligently scheduling resources

Additional Research Areas: Addressing issues related to heterogeneity in edge clouds

Technical Skills: Kubernetes, Prometheus, Tensorflow, PyTorch

Undergraduate Research

Data Science Laboratory

2018 – 2020

Supervisor: Dr. Parham Moradi

Broad Research Area: Data Science, Machine Learning

Specific Research Focus: Recommender Systems, Indoor Positioning Systems, Natural Language Processing (NLP)

Project: Data exploratory analysis and solution for six Kaggle challenges.

(Recommender Systems, Tweet Sentiment Extraction, Toxic Comment Classification, M5 Time Series Forecasting, Abstraction and Reasoning, Indoor Location and Navigation)

Technical Skills: Python, Pandas, Scikit-learn

Teaching Experience

Virginia Tech

Graduate Teaching Assistant

Spring 2025

Course title: Computer Systems

Responsibilities: Holding TA hours and marking exercises and projects

Professors: Dr. Ali Butt, Dr. Dan Williams

Graduate Teaching Assistant

Fall 2024

Course Title: Programming Languages

Responsibilities: Marking exercises and projects

Professor: Dr. Kirshanthan Sundararajah

University of Kurdistan

Undergraduate Teaching Assistant

Spring 2018

Course title: Advanced Programming

Responsibilities: Holding classes weekly and marking assignments.

Professor: Dr. Rojia Pir Mohammadiani

Undergraduate Teaching Assistant

Summer 2017 & Fall 2017

Course Title: Fundamentals of Computer and Programming

Responsibilities: Holding classes weekly and marking assignments.

Professor: Dr. Sadoon Azizi

Test Scores

TOEFL 104: (R) 27 (L) 28 (S) 22 (W) 27 APRIL, 2022

Technical Skills

- CUDA, OpenCL, CYCL
 - Programming Languages: Python, C/C++, Java, C#
 - Operating Systems: GNU/Linux (Arch Linux, Manjaro, Ubuntu, Debian, CentOS)
 - Virtualization/Cloud: Kubernetes, Xen, Docker, Virtualbox, Vagrant, Ansible, Prometheus
 - Data Science & Machine Learning: Scikit-learn, Pandas, PyTorch, Tensorflow
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Awards and Honors

Graduate Research Assistantship, Virginia Tech	2024 – present
Best Paper Award: The International Conference on IoT & Applications, University of Isfahan	2023
Master's program valedictorian, top 10 among entering engineering students	2023
Granted, National University Tuition Waiver (including partly necessary expenses)	2016

Academic Projects

Enhancing serverless monitoring using eBPF (Course: Operating Systems)

Development of a ticket management system to streamline customer support and issue tracking (Course: Software Engineering)

Information retrieval system using inverted index and TF-IDF (Course: Information Retrieval)

Setting up production-ready Kubernetes clusters using Vagrant and Ansible as Infrastructure as Code (IaC) tools

Developed custom schedulers and load-balancers to enhance the performance of serverless functions running within Kubernetes clusters

Related Courses

- Advanced Computer Networks: 19/20
 - Advanced Operating Systems: 20/20
 - Internet of Things: 19/20
 - Programming Languages: 18.64/20
 - Software Engineering: 18.65/20
 - Artificial Intelligence: 17/20
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References

Prof. Dimitrios Nikolopoulos	dsn@vt.edu	https://dsniko.github.io/
Dr. Sadoon Azizi	s.azizi@uok.ac.ir	https://research.uok.ac.ir/~sazizi/en/
Dr. Parham Moradi	p.moradi@uok.ac.ir	https://research.uok.ac.ir/~pmoradi/en/
Dr. Majid Meghdadi	meghdadi@znu.ac.ir	https://www.znu.ac.ir/members/meghdadi-majid/en