SINA TABAKHI

@ stabakhi1@sheffield.ac.uk https://sinatabakhi.github.io/ https://github.com/SinaTabakhi
https://scholar.google.com/citations?user=G6JSFp8AAAAJ&hl=en

Education

- **University of Sheffield**, Sheffield, UK. Nov 2021 - Present
  Ph.D. in Computer Science.
  Thesis: Multimodal learning for multi-omics.
  Supervisor: Haiping Lu, *Professor*.
- **University of Kurdistan**, Sanandaj, Iran. Sep 2011 - Oct 2013
  M.Sc. in Computer Engineering, Artificial Intelligence.
  Thesis: New feature selection methods based on filter approach using ant colony optimization algorithm.
  Supervisor: Parham Moradi, *Associate Professor*, and Fardin Akhlaghian Tab, *Associate Professor*.
  GPA: 19.45/20; *Rank*: 1/20.
- **Azad University-Sanandaj Branch**, Sanandaj, Iran. Sep 2007 - Sep 2011
  B.Sc. in Information Technology Engineering.
  Thesis: Review of filtering methods in image processing.
  Supervisor: Anvar Bahrampour, *Assistant Professor*.
  GPA: 18.41/20; *Rank*: 1/80.

Research Interests

- Multimodal Learning for Multi-Omics
- Machine Learning for Solving Real-World Problems
- Dimensionality Reduction through Feature Selection
- Bioinformatics

Publications

Journal Papers

1. **Sina Tabakhi**, Mohammod Naimul Islam Suvon, Pegah Ahadian, and Haiping Lu, "Multimodal Learning for Multi-Omics: A Survey", *World Scientific Annual Review of Artificial Intelligence*, 2022.
2. **Sina Tabakhi** and Parham Moradi, "Universal Feature Selection Tool (UniFeat): An Open-Source Tool for Dimensionality Reduction", *ArXiv*, 2022.
3. **Sina Tabakhi** and Parham Moradi, "Relevance–redundancy feature selection based on ant colony optimization", *Pattern Recognition* (**IF: 8.518**), Vol. 48, pp. 2798-2811, 2015, (**174 citations** as of 23 January 2023).
4. **Sina Tabakhi**, Ali Najafi, Reza Ranjbar, and Parham Moradi, "Gene selection for microarray data classification using a novel ant colony optimization", *Neurocomputing* (**IF: 5.779**), Vol. 168, pp. 1024-1036, 2015, (**144 citations** as of 23 January 2023).
5. **Sina Tabakhi**, Parham Moradi, and Fardin Akhlaghian, "An unsupervised feature selection algorithm based on ant colony optimization", *Engineering Applications of Artificial Intelligence* (**IF: 7.802**), Vol. 32, pp. 112-123, 2014, (**377 citations** as of 23 January 2023).

Conference Papers

1. **Sina Tabakhi** and Haiping Lu, "Multi-agent Feature Selection for Integrative Multi-omics Analysis", 44^{th} *Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC)*, Glasgow, UK, pp. 1638-1642, 2022.

Honors and Awards

- Awarded the **University Research Scholarship**, University of Sheffield, UK, 2021.
- One of the **Top 5 Most Cited Papers** in Last 5 Years Published in Engineering Applications of Artificial Intelligence (Elsevier), 2019.
- Achieved **Outstanding Contribution in Reviewing** certificate, Pattern Recognition (Elsevier), 2018.
- Awarded **Research Grant** for highlighted academic activities, Iran's National Elites Foundation, Iran, 2016.
- Recognized as a **National Elite** by Iran's National Elites Foundation (The Professional National Foundation for Supporting Elites), Iran, 2014.
- **Ranked** 1^{st} (highest GPA) among 20 graduate students, Department of Computer Engineering, University of Kurdistan, Iran, 2013.
- **Honorable Mention** in the 1^{st} Amirkabir Artificial Intelligence Challenges (AAIC2012), Bank Fraud Detection League, Amirkabir University of Technology, Iran, 2012.

- **Ranked** 1^{st} (highest GPA) among 80 undergraduate students, Department of Computer Engineering and IT, Azad University-Sanandaj Branch, Iran, 2011.
- Qualified as a Member of Young Researchers and Elites Club (First Center of Identification and Supporting Elites and Young Researchers of the University in Iran), Iran, 2010.
- **Honorable Mention** in the Asia Regional ACM Programming Contest, Tehran Site, Sharif University of Technology, Iran, 2008, 2009, and 2010.
- **Ranked** 1^{st} in Internal ACM Programming Contest, Azad University-Sanandaj Branch, Iran, 2008 and 2009.

Teaching Experience

- **Instructor**, Design and Analysis of Algorithms, University of Kurdistan, Iran. Fall 2015
- **Instructor**, Data Structures, University of Kurdistan, Iran. Spring 2015
- **Instructor**, Design and Analysis of Algorithms, Fanavari Abidar Institute, Iran. Spring 2014
- **Teaching Assistant**, Design and Analysis of Algorithms, University of Kurdistan, Iran. Fall 2012 & Spring 2013
- **Teaching Assistant**, Advanced Programming in C++, Azad University-Sanandaj Branch, Iran. Spring 2008

Work Experience

- **Software Engineer** at University of Sheffield, Sheffield, UK. Jan 2022 – Present
- **Senior Backend Developer** at Phoenix, Tehran, Iran. Dec 2019 – Oct 2021
- **Senior Backend Developer** at AloPeyk, Tehran, Iran. May 2019 – Nov 2019
- **Web Application Developer** at Jiro Software Engineering Co., Sanandaj, Iran. Jan 2017 – May 2019
- **Research Assistant** at University of Kurdistan, Sanandaj, Iran. Jun 2015 – Apr 2016
- **Research Assistant** at Molecular Biology Research Center, Tehran, Iran. Jul 2014 – May 2015
- **Internship** at Rayan Ravesh Company, Sanandaj, Iran. Mar 2011 – Jun 2011

Research Projects

- **Universal Feature Selection Tool (UniFeat)** (https://unifeat.github.io/)
  with Parham Moradi
  Universal Feature Selection Tool (UniFeat) is an open-source tool, developed completely in Java, for performing feature selection process in different areas of research. UniFeat provides a set of well-known and state-of-the-art feature selection methods within the significant auxiliary tools, including performance evaluation criteria, visual displays, statistical analysis, and reduced datasets to compare the performance of feature selection methods.
- **Onco Gene Selector**
  Onco Gene Selector is Java-based software for gene selection in microarray data using machine learning techniques.

Talks

- "Multi-agent Feature Selection for Integrative Multi-omics Analysis", *N8 CIR Machine Learning Theme Launch*, University of Leeds, UK, November 2022.
- "Multi-agent Feature Selection for Integrative Multi-omics Analysis", 44^{th} *Annual International Conference of the IEEE Engineering in Medicine and Biology Society*, Glasgow, UK, July 2022.
- "Multimodal Learning for Multi-omics", *Machine Learning Research Retreat*, University of Sheffield, UK, July 2022.
- "Multi-agent Feature Selection for Integrative Multi-omics Analysis", *COM Research Away Day*, University of Sheffield, UK, June 2022.

Memberships

- IEEE Student Membership. since 2012
- IEEE Engineering in Medicine and Biology Society Membership. since 2022
- Iran's National Elites Foundation. 2014-2021
- Exceptional Talents Office of the University of Kurdistan. 2012-2013
- Young Researchers and Elites Club. 2010-2014

Professional Services

- **Co-organizer** of the Alan Turing Institute's interest group on Meta-learning for multimodal data. since 2022
- **Contributor** to the development of Sheffield Data Science and AI Network with the support of the Turing Network Development Award. since 2022

- **Reviewer** in Pattern Recognition (Elsevier). 2017-2018
- **Subreviewer** in International Conference on Information and Knowledge Technology (IKT). 2015

Technical Skills

- **Programming Languages**:
  - Proficient in C#, Java.
  - Worked with Python, C/C++.
- **Web Programming**:
  - Experienced in ASP.NET.
  - Familiar with HTML, CSS, Javascript.
- **Databases**:
  - Experienced in SQL server.
  - Worked with MySQL.
- **Operating Systems**:
  - Microsoft Windows.
  - Familiar with Linux (Ubuntu).
- **IDE**:
  - Microsoft Visual Studio, NetBeans, Eclipse, PyCharm.
- **Version Controls**:
  - Git.

Languages

- Kurdish: Native
- Persian: Native
- English: Fluent (IELTS Academic Score: 6.5)
- Arabic: Basic

References

1. Haiping Lu, Professor, Department of Computer Science, University of Sheffield, UK (E-mail: h.lu@sheffield.ac.uk, Homepage: https://haipinglu.github.io/).
2. Parham Moradi, Associate Professor, Department of Computer Engineering, University of Kurdistan, Iran (E-mail: p.moradi@uok.ac.ir, Homepage: https://research.uok.ac.ir/~pmoradi/en/).
3. Fardin Akhlaghian Tab, Associate Professor, Department of Computer Engineering, University of Kurdistan, Iran (E-mail: f.akhlaghian@uok.ac.ir, Homepage: https://research.uok.ac.ir/~fakhlaghian/en/).