

# Mahmoud Jahanshahi

Email: [mahmoud.jahanshahi@gmail.com](mailto:mahmoud.jahanshahi@gmail.com)

Personal Website: <https://web.eecs.utk.edu/~mjahansh/>

GitHub: [mahmoudjahanshahi](https://github.com/mahmoudjahanshahi)

LinkedIn: [mahmoudjahanshahi](https://www.linkedin.com/in/mahmoudjahanshahi)

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## Profile

Highly reliable and experienced **data scientist** with a proven track record in mining open-source software repositories. Extensive experience in business intelligence consulting, financial and investment analysis, and project management across various industries, particularly telecommunications. Familiar with applying machine learning, deep learning, and natural language processing techniques, with proficiency in statistical analysis, to extract insights and drive data-informed decisions. Recognized for key competencies including:

- Advanced analytical and problem-solving capabilities
- Ability to tackle complex, intellectually demanding problems with minimal guidance
- Rapid learning and adaptability in dynamic environments
- Leadership in cross-functional teams, with strong communication and organizational skills

## Professional Experience

### **University of Tennessee, Knoxville, USA**

#### **Graduate Research Assistant**

**May 2021 – Present**

*Department of Electrical Engineering & Computer Science*

- Published research on mining Open Source Software supply chains, focusing on copy-based reuse and its broader implications for software development.
- Key contributor to the World of Code infrastructure, supporting large-scale data curation, augmentation, and repository analysis.

### **Mobile Communications Company of Iran (Hamrahe Aval), Tehran, Iran**

#### **Business Intelligence Analyst**

**May 2019 – Apr 2020**

*ERP Department – Data Warehousing & Business Intelligence Office*

- Acted as a liaison between business units and data warehouse teams, translating business needs into technical requirements for the design, testing, and development of warehouse solutions.
- Developed and maintained reports, dashboards, and analyses using Oracle Business Intelligence Enterprise Edition (OBIEE).

#### **Investment Team Leader**

**Feb 2018 – May 2019**

*Investment Department (M&A) – Feasibility Studies Office*

- Led a team of five professionals in managing complex investment projects, including business plan development and valuation of acquisition targets.
- Collaborated with C-level management and the board of directors to negotiate contract terms and cooperation models with potential counterparts, such as strategic partners or business sellers.

#### **International Investment Analyst**

**Feb 2016 – Feb 2018**

*Investment Department (M&A) – International Investments Office*

- Developed financial models to project earnings and assess the viability of acquisition opportunities in international markets.
- Screened markets for potential investment targets, interpreting financial statements and other data to evaluate risk and profitability.

## Skills

- **Programming Languages:** Bash, R, Python, C
- **Data Analysis:** SQL, Tableau, Power BI, MATLAB
- **Other Tools:** MS Project, COMFAR
- **Languages:** English (Fluent), German (Working Knowledge), Persian (Native)

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## Education

**PhD - Computer Science** (GPA: 4.00/4)

**May 2021 - Present**

University of Tennessee, Knoxville, USA

- Dissertation: Copy-Based Reuse and its Implications in Open Source Software Supply Chains
- Supervisor: [Dr. Audris Mockus](#)

**MSc – Industrial Engineering – Industrial** (GPA: 17.01/20)

**Sep 2011 – Sep 2013**

Sharif University of Technology, Tehran, Iran

\* Ranked 6<sup>th</sup> nationwide in industrial engineering Graduate University Entrance Exam

- Thesis: The Influence of Information Presentation and Risk Attitude on Asset Allocation in Financial Markets
- Supervisor: [Dr. S. T. Akhavan Niaki](#)

**BSc – Industrial Engineering – System Planning and Analysis** (GPA: 14.16/20)

**Jan 2007 – Jul 2011**

Mazandaran Institute of Technology, Babol, Iran

## Publications

- **Jahanshahi, M.**, Reid, D., McDaniel, A., & Mockus, A. "OSS License Identification at Scale: A Comprehensive Dataset Using World of Code." *arXiv preprint arXiv:2409.04824*. 2024.
- **Jahanshahi, M.**, Reid, D., & Mockus, A. "Beyond Dependencies: The Role of Copy-Based Reuse in Open Source Software Development." *arXiv preprint arXiv:2409.04830*. 2024.
- Miller, C., **Jahanshahi, M.**, Mockus, A., Vasilescu, B., & Kästner, C. "Understanding the Response to Open-Source Dependency Abandonment in the npm Ecosystem." *Proceedings of the 47th International Conference on Software Engineering*. 2025. (Accepted)
- **Jahanshahi, M.** & Mockus, A. "Dataset: Copy-based Reuse in Open Source Software." *2024 IEEE/ACM 21st International Conference on Mining Software Repositories (MSR)* (pp. 42-47). IEEE, 2024.
- Reid, D., **Jahanshahi, M.**, & Mockus, A. "The extent of orphan vulnerabilities from code reuse in open source software." *Proceedings of the 44th International Conference on Software Engineering* (pp. 2104-2115). 2022. **Nominated for ACM SIGSOFT Distinguished Paper Award.**
- Lyulina, E., & **Jahanshahi, M.** "Building the collaboration graph of open-source software ecosystem." *2021 IEEE/ACM 18th International Conference on Mining Software Repositories (MSR)* (pp. 618-620). IEEE, 2021.