

**Professional Summary:**

A highly skilled and analytical data scientist with over 10 years of experience in academia, research, and industry. Demonstrates expertise in designing innovative data-driven solutions, leveraging machine learning, optimization algorithms, and advanced analytics to address complex challenges. Proven track record of collaborating with multidisciplinary teams to enhance operational efficiency, develop cutting-edge frameworks, and produce actionable insights. Adept at integrating advanced technical tools such as Python, SQL, and PowerBI to streamline decision-making processes. Passionate about mentoring, teaching, and applying data science principles to real-world problems.

**Professional Skills:**

- Proficient in Data Governance and Data Management
- Programming Languages: Proficient in Python (Libraries), R
- Database Languages: Strong skills in MySQL and SQL Server
- Visualization Tools: Strong skills Tableau and PowerBI
- Data Management and Analysis: Advanced database management skills and proficiency in quantitative analysis, employing statistical techniques for insightful hypothesis testing and robust data governance.
- Microsoft Office Suite: Advanced Excel (Formula, Chart, Dashboard, Power Query), Word, PowerPoint
- Effective Communication and Stakeholder Engagement: Exceptional communication skills, adept at translating complex data insights for diverse audiences and facilitating collaborative environments with stakeholders.

**Education:**

- PhD/ Industrial Engineering, University of Malaya, 2015
- Master Degree/ Industrial Engineering, Khajeh Nasir University, 2011
- Bachelor Degree / Industrial Engineering, Yazd University, 2009

**Teaching Experience:**

**Sessional Instructor**  
**University of Regina, Regina, Canada**

**August 2023 – December 2023**

**Course Development/Improvement: MBA 880 Business Analytics**

- Redesigned the course curriculum to incorporate advanced analytics techniques, focusing on practical applications in business decision-making.
- Integrated real-world case studies and datasets to provide hands-on learning experiences, enhancing students' understanding of analytics tools and methodologies.
- Developed and delivered interactive lectures on data visualization, predictive analytics, and Python programming, tailored to the needs of MBA students.
- Introduced modern business intelligence tools, such as Tableau and PowerBI, to equip students with industry-relevant skills.
- Collaborated with industry professionals to align course content with current business trends and analytics practices, ensuring the program's relevance and impact.

**Assistant Professor**  
**Shahid Ashrafi University, Iran**

**January 2019 - August 2022**

Session	Course Title	Level	Credit	# of Student
Fall 2022	Introduction to Machine Learning	Undergraduate	3	36
	Advanced Operations Research	Graduate	3	17
Winter	Operations Research II	Undergraduate	3	40

<b>2022</b>	Introduction to Programming	Undergraduate	3	35
	Multi-Criteria Decision Analysis	Graduate	3	12
<b>Fall 2021</b>	Data Science Foundation	Undergraduate	3	46
	Simulation of Industrial Systems	Graduate	3	18
<b>Winter 2021</b>	Introduction to Programming	Undergraduate	3	37
	Advanced Computational Intelligence	Graduate	3	20
	Optimization in Industrial Engineering	Graduate	3	20
<b>Fall 2020</b>	Advanced Operations Research	Graduate	3	15
	Programming with Python	Undergraduate	3	34
<b>Winter 2020</b>	Simulation of Industrial Systems	Graduate	3	20
	Applied Machine Learning for Data Science	Graduate	3	19
	Deep Learning and Neural Networks	Graduate	3	13
<b>Fall 2019</b>	Combinatorial Optimization	Graduate	3	16
	Introduction to Programming	Undergraduate	3	35
	Introduction to Machine Learning	Undergraduate	3	35

### Course Development/Improvement:

- Designed and developed the curriculum for Introduction to Machine Learning, focusing on foundational machine learning algorithms, hands-on Python programming, and applications in real-world scenarios.
- Improved the Advanced Operations Research course by adding modern optimization techniques, including meta-heuristic algorithms and case studies in industrial systems.
- Enhanced Introduction to Programming by emphasizing problem-solving skills and coding fundamentals with Python to prepare students for advanced computational courses.
- Updated Simulation of Industrial Systems with industry-relevant tools and techniques, enabling graduate students to model and analyze complex industrial processes.
- Developed the Data Science Foundation course for undergraduate students, incorporating data cleaning, analysis, and visualization to provide a strong foundation in data analytics.
- Added new content to the Deep Learning and Neural Networks course by including modern frameworks such as TensorFlow and PyTorch, equipping students with skills for research and industry applications.
- Included advanced techniques in Applied Machine Learning for Data Science, such as supervised and unsupervised learning, and facilitated hands-on projects to help students practice theoretical concepts.
- Expanded the content of Combinatorial Optimization to include cutting-edge methods like genetic algorithms and their applications in logistics and transportation.
- Worked with colleagues and industry professionals to ensure course content matched current trends and technology, helping students prepare for academic and professional challenges.

### Research Experience:

**Postdoctoral Research Fellow**  
**University of Regina, Regina, Canada**

**February 2023 - Present**

- Increasing dashboard efficiency by 20% through designing and developing data quality solutions, including data profiling, rules development, and root cause analysis.
- Leading predictive modeling and forecasting projects to enhance business insights and expertise, utilizing advanced machine learning techniques and statistical models.
- Analyzing historical data trends to improve forecasting accuracy, leveraging time-series analysis and data visualization tools.
- Collaborating with industry partners to apply data analytics in process optimization, achieving efficiency and environmental improvements through innovative problem-solving.
- Developing and implementing data governance protocols to ensure data quality and accessibility, employing advanced data management frameworks to enhance data integrity and usability for all stakeholders.

**Postdoc Research Fellow**  
**Sultan Qaboos University, Oman**

**August 2015- April 2016**

- Developed predictive models using machine learning algorithms to identify optimal auction outcomes, improving decision-making accuracy by 25%.

- Applied data preprocessing and feature engineering techniques to analyze large datasets, enhancing the performance of predictive models.
- Designed and implemented advanced algorithms, including supervised and unsupervised learning methods, to optimize auction processes.
- Collaborated with multidisciplinary teams to integrate data-driven insights into auction strategy development and execution.
- Published findings on the application of machine learning in auction prediction, contributing to advancements in data science methodologies.

**Research Assistant**

**September 2011- July 2015**

**University of Malaya, Malaysia**

- Designed and implemented novel mathematical models to optimize transportation costs, addressing real-world logistics challenges with precision.
- Developed and fine-tuned meta-heuristic algorithms, including Memetic and Simulated Annealing, to solve complex optimization problems.
- Conducted extensive computational experiments to validate the performance and efficiency of proposed algorithms, achieving significant cost reductions.
- Published peer-reviewed papers detailing the development and application of advanced optimization techniques in transportation systems.
- Collaborated with cross-disciplinary research teams to apply mathematical modeling and algorithmic solutions to industrial case studies, enhancing operational efficiency.

**Industrial Experience:**

**Data Scientist and Strategy Consultant**

**July 2016-December 2018**

**Saman Bank, Iran**

- Designed and implemented an advanced analytics framework to enhance financial reporting and operational efficiency, utilizing machine learning techniques for data-driven decision-making.
- Developed predictive models to forecast market trends and customer behaviors with 98% accuracy, leveraging supervised learning algorithms and statistical methods to boost customer satisfaction by 20%.
- Applied data preprocessing and feature engineering techniques to improve the quality and relevance of datasets for predictive analytics and trend analysis.
- Introduced business intelligence tools (SQL, Python, R, Tableau, PowerBI) to automate data classification, improve performance tracking, and enable dynamic visualizations, resulting in a 25% improvement in operational processes and a 15% reduction in project costs.
- Conducted trend analysis and developed actionable insights to optimize strategic planning and resource allocation across organizational units.

**Certification:**

- SQL, The University of California, Davis on Coursera, 2024
- Data Modeling in Power BI, Microsoft on Coursera, 2024
- Business Analytics, The University of Pennsylvania on Coursera, 2024
  - ✓ Customer Analytics
  - ✓ Operations Analytics
  - ✓ People Analytics
  - ✓ Accounting Analytics
  - ✓ Business Analytics Capstone

**List of Publications:**

Mirmohammadsadeghi, S., & Kabir, G. (2024). Formulation and solution of the stochastic truck and trailer routing problem. *Engineering Proceedings*, 76(1), Article 17.

Andrade-Arias, A. S., Kabir, G., Elizondo-Noriega, A., & Mirmohammadsadeghi, M. (2024). Public acceptability of solar energy

- implementation in Mexico. *Engineering Proceedings*, 76(1), Article 7.
- Galaviz Román, Á. F., Mirmohammadsadeghi, S., & Kabir, G. (2024). CO2 emissions projections of the North American cement industry. *Engineering Proceedings*, 76(1), Article 19.
- Alavi, S., Siamaki, P., & Mirmohammadsadeghi, S. (2023). Providing a green value stream map to improve production performance. *Green and Low-Carbon Economy*. Advance online publication.
- Alam, M. D., Kabir, G., & Mirmohammadsadeghi, S. (2023). A digital twin framework development for apparel manufacturing industry. *Decision Analytics Journal*, 7, Article 100252.
- Alavi, S., Peivandzani, S., & Mirmohammadsadeghi, S. (2021). Risk assessment and prioritization of ERP implementation based on BSC. *Journal of Human, Earth, and Future*, 2(1), 16–23.
- Alavi, S., & Mirmohammadsadeghi, S. (2021). Introducing a green agile workforce. *Journal of Soft Computing and Decision Support Systems*, 8(1), 18–24.
- Mirmohammadsadeghi, S., Masoumik, S. M., & Alavi, S. (2020). Multi-point simulated annealing algorithm for solving truck and trailer routing problem with stochastic travel and service time. *Journal of Soft Computing & Decision Support Systems*, 7(6), 14–18.
- Triki, C., Mirmohammadsadeghi, S., & Piya, S. (2017). Heuristic methods for the periodic shipper lane selection problem in transportation auctions. *Computers & Industrial Engineering*, 106, 182–191.
- Triki, C., Mirmohammadsadeghi, S., & Piya, S. (2017). Solving the Lane Selection Problem in Multi-Period Transportation Auctions. *Proceedings of the 3rd International Conference on Research & Innovation in Computer, Electronics and Manufacturing Engineering (RICEME-17)*.
- Mirmohammadsadeghi, S., & Ahmed, S. (2015). Memetic heuristic approach for solving truck and trailer routing problems with stochastic demands and time windows. *Networks and Spatial Economics*, 15(4), 1093–1115.
- Mirmohammadsadeghi, S., Ahmed, S., & Rezaei, S. (2015). Stochastic vehicle routing problem (SVRP) variants and solution approaches: A review and research directions. *Journal of Global Economics, Management and Business Research*, 4(4), 150–165.
- Mirmohammadsadeghi, S., & Ahmed, S. (2015). Metaheuristic approaches for solving truck and trailer routing problems with stochastic demands: A case study in dairy industry. *Mathematical Problems in Engineering*, 1-14.
- Mosayebidorcheh, S., Hatami, M., Ganji, D. D., Mosayebidorcheh, T., & Mirmohammadsadeghi, S. M. (2015). Investigation of transient MHD Couette flow and heat transfer of dusty fluid with temperature-dependent properties. *Journal of Applied Fluid Mechanics*, 8(4), 921–929.
- Mirmohammadsadeghi, S., Ahmed, S., & Rezaei, S. (2014). Application of memetic algorithm to solve truck and trailer routing problems. *Journal of Applied Science and Agriculture*, 9(18), 72–78.
- Roslin, E. N., Ahmed, S., Shahadat, M., & Mirmohammadsadeghi, S. (2014). A conceptual model for full-blown implementation of lean manufacturing system in Malaysian automotive industry. In *Proceedings of the 2014 International Conference on Industrial Engineering and Operations Management*. Bali, Indonesia.
- Mirmohammadsadeghi, S., Ahmed, S., & Roslin, E. N. (2014). Application of memetic algorithm to solve truck and trailer routing problems. In *Proceedings of the 2014 International Conference on Industrial Engineering and Operations Management*. Bali, Indonesia.