

Seyed Mohammad Bidoki

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EDUCATION

PhD in Software Systems

Shiraz University, Shiraz, Iran

Sep. 2014 – Sep. 2020

Dissertation: Multi-Document and Query Based Extractive Text Summarization in Biomedical Domain, GPA (A); Top 2 PhD Student – Electrical and Computer Engineering Faculty.

- Maintaining outstanding GPA (19.09 / 20) while learning advanced practices and technologies in Computer engineering, with a focus on applied text mining, Information retrieval and machine learning.
- Completed comprehensive Computer Engineering courses in subjects including: Advanced Database systems, Text Mining, Software Architecture, Statistical Pattern Recognition, Description and Verification of Software, and Database Security.

M.Sc. in Software Engineering

Shiraz University, Shiraz, Iran

Sep. 2007- Sep. 2010

Thesis: Image Semantic Discovery from the Text in Web Pages for Semantic-Based Image Retrieval, GPA (A); Top 3 Graduate Student – Electrical and Computer Engineering Faculty.

- Maintaining outstanding GPA (17.23 / 20) while learning advanced practices and technologies in Computer engineering, with a focus on Information retrieval Systems.
- Completed comprehensive Computer Engineering courses in subjects, such as Web Information Retrieval, Advanced Software Engineering, Machine Learning, Evolutionary Algorithms, Advanced Database Systems, Expert Systems, and Parallel Programming.

B.Sc. in Software Engineering

Isfahan University of Technology, Isfahan, Iran

Sep. 2003- Aug. 2007

Final Project: Design and Implementation of the University's Employee Corporative Website

HIGHLIGHTS OF QUALIFICATIONS

- Deep knowledge of Information Retrieval, Text Mining, Database Systems, Machine Learning, Evolutionary Algorithms, Software Architecture, Pattern Recognition, Expert Systems, Database Security.
- More than 15 years of experience in teaching Computer Engineering academic courses in B.Sc. grade.
- Acting as the final project advisor for more than 100 BSc. students and 10 MSc. students.
- Reviewer of some prestigious scientific journals including Expert System with Application, Super Computing, Information Processing & Management, Complex & Intelligent Systems, Super Computing, Journal of Soft Computing and Information Technology, and Iranian Journal of Science and Technology, as well as several conferences in the field of information systems and text mining.
- Facilitator, mentor and judge for several startup weekends and Entrepreneurship events.

- Familiar with wide range of Programming languages and technologies; Experienced in Java, Python, Swift, PHP, C, C++, MATLAB, SQL.
 - Collaborative and reliable engineering resource; talent for working effectively as a contributing team member, sharing ideas and assisting co-workers in meeting project deadlines and performance targets.
 - Passionate about Mobile and Web Application Development and related technologies.
 - Problem solver and productive personality, self-learning and knowledge sharing ability.
 - Communicable, creative, diligent, responsible, flexible, and optimist person.
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PROFESSIONAL EXPERIENCES

Academic & Institutional Leadership

Persian Gulf University

Oct. 2011 – Present

Faculty Member, Assistant Professor

- Deliver undergraduate and postgraduate courses in Computer Engineering, Natural Language Processing, Software Architecture, and Information Retrieval.
- Supervised 100+ B.Sc. final projects and 10+ M.Sc. theses in software systems, text mining, and AI applications.

Persian Gulf University

Sep. 2013 – 2019

Head of Computer Engineering Educational Group

- Directed academic curriculum development, faculty allocation, and educational standards for the Department of Computer Engineering.

Persian Gulf University

Feb. 2016 – Present

Co-founder & Advisory Board Member of Software Development Laboratory

- Established SDLab as a specialized R&D unit focused on web and mobile application development.
- Guide strategic direction, mentor student engineering teams, and oversee collaborative software projects to foster tech entrepreneurship and build industry-ready skills.

Industry, Entrepreneurship & Product Architecture

Cloud Intelligence Developers LLC, Knowledge-Based Company
Co-Founder & CEO

Mar. 2025 – Present

Founded and led Cloud Intelligence Developers LLC, steering end-to-end strategy, fundraising, and technical architecture across a portfolio of AI and EdTech SaaS products.

Key Products & Initiatives:

- MLGrid (mlgrid.com) | Co-Founder & Lead Architect (Feb. 2024 – Present) Architected a platform transforming AI models into scalable cloud-based APIs with custom model composition capabilities. Led cloud infrastructure, cross-functional teams, and growth strategies to democratize access to AI technologies.

- Learnavy (learnavy.com) | Co-Founder & Product Architect (Sep. 2025 – Present)
Engineered an AI-powered adaptive learning platform utilizing Bayesian Knowledge Tracing (BKT) and automated assessment engines to personalize educational experiences across schools.
- Behdan (beh-dan.ir) | Founder & Systems Architect (Mar. 2025 – Present) Developed a smart classroom management ecosystem, building centralized device authentication for interactive touch displays, enterprise subscription management, and hardware-software integration tools.

Petro Ama Intelligent Processors LLC

Dec. 2024 – Present

IT Manager, <https://clicksc.ir/>

Akhtar Shimi Co.

Sep. 2013 – Present

IT Manager, <https://akhtarshimi.ir/>

Zarrin Mehr Biotech Co.

Sep. 2016 – Jan. 2022

IT Manager

Persian Gulf University

Jan. 2017–Mar. 2018

Facilitator and Secretary of the Scientific Committee for the 1st Startup Weekend of Urban Services

RICeST Center (Regional Center for Information Science and Technology)

Sep. – Nov. 2016

Project Advisor

Analyzing the legacy software system of RICeST and documenting its pros and cons. Proposing some notes and hints for better performance and usability. Comparing legacy system with alternative existing commercial systems.

The 24th Iranian Conference of Electrical Engineering (ICEE 2016) Sep.2015 – May 2016

Website Manager and Partner in Executive Team, <http://icee2016.shirazu.ac.ir/en/>

Teif Zamin Consulting Engineers Co.

Jun 2007 – Jun 2008

Web and Mobile Developer

Developing a GIS-Based mobile application for Municipality of Yazd using J2ME technology. The application was a Mobile Navigating Tool for tourism guiding purposes. It would load map on a user's mobile phone and let him navigate through the map and search places, roads, squares, etc. on the map.

TEACHING EXPERIENCE

Faculty of Intelligent Systems Engineering and Data Science,

Feb 2022-Present

Persian Gulf University

Faculty Member

Postgraduate (Natural Language Processing, Natural Language Understanding)

Jam Dept. of Engineering, Persian Gulf University

Jun 2011-Present

Faculty Member

(Web Design, Database Design, Information Retrieval and Web Search, Software Engineering, UX/UI Design, Fundamentals of Python Programming, Fundamentals of Computer and Programming, Assembly and Machine Language, Computer Algorithms, Digital Circuits Design, Implementation of programming languages)

Advanced Training Center, Persian Gulf University **Sep. 2016 – Present**
Instructor

(Fundamentals of Computer Systems Security)

Shiraz University **Sep. 2015 – Sep.2016**
Guest Lecturer

(Application of Computer in Agriculture)

Shiraz University Faculty of Electronic Learning **Sep. 2015 – Present**
Guest Lecturer

(Information Retrieval and Web Search)

Jam Payam Nour University, Bushehr, Iran **Sep. 2013 – Jun 2014**
Guest Lecturer

(Fundamentals of Computer and Programming, Digital Circuits Design)

Shiraz Pasargad Higher Education Institute **Sep. 2011 – Jun 2012**
Faculty Member, Lecturer

(Web Design, Fundamentals of computer and programming, Assembly and Machine Language, Computer Networks, Computer Algorithms)

Shiraz Azad University **Jan. 2010 – Jan.2011**
Guest Lecturer

(Database Design, Information Retrieval)

Maad Higher Education Institute **Jan. 2010 – Feb.2011**
Guest Lecturer

(Advanced Database Design)

Fasa University **Sep. 2010 – Feb.2011**
Guest Lecturer

(Fundamentals of computer and programming, Numerical Analysis)

Sama Shiraz branch of Islamic Azad University **Sep. 2010 – Feb.2011**
Guest Lecturer

(Web Page Design, Information Retrieval)

Science & Culture University of Yazd **Jan. 2011 – Jun 2011**
Guest Lecturer

(Web Page Design, Database Design)

Kavar University of Applied Science and Technology **Sep. 2008 – Jun 2010**
Guest Lecturer

(Database Design, Information Retrieval, Software Engineering)

Isfahan University of Technology

Sep. 2005 – Jun 2007

Teaching Assistant

(Fundamentals of computer and programming)

RESEARCH GRANTS

Consulting and Research Services on Incident Response and Cyber Threat Prevention (APA Center, Persian Gulf University)

Conducted a national research project for the Information Technology Organization of Iran, focusing on incident response strategies and cybersecurity threat prevention. The project involved analyzing vulnerabilities in cyberspace, developing proactive defense mechanisms, and enhancing the resilience of critical information infrastructures.

PUBLICATIONS

- 1) M. Bidoki, M. R. Moosavi, M. Fakhrahmad, *A semantic approach to extractive multi-document summarization: Applying sentence expansion for tuning of conceptual densities*, Information Processing & Management 57, no. 6 (2020): 102341.
- 2) M. Bidoki, M. Fakhrahmad, and M. R. Moosavi. *Text Summarization as a Multi-objective Optimization Task: Applying Harmony Search to Extractive Multi-Documnet Summarization*, The Computer Journal (2020).
- 3) Z. Setoodeh, M. R. Moosavi, M. Fakhrahmad, M. Bidoki, *A Proposed Model for Source Code Reuse Detection in Computer Programs*, Iranian Journal of Science and Technology, Transactions of Electrical Engineering (2021).
- 4) M. H. Danesh-pajoo, S. M. Bidoki, *Toward Intelligent Autonomous Penetration Testing: Integrating AI-Driven Web Vulnerability Discovery with Machine Learning-Based Risk Prioritization*, National Conference on Information Technology, Nanotechnology, Artificial Intelligence and Technological Future Studies, 2026, Tabriz, Iran (Accepted paper as Oral presentation).
- 5) S. M. Bidoki, *Enhancing Persian Information Retrieval via an Integrated Preprocessing Chain: An Approach Based on Native NLP Tools*, The 1st National Conference on Applied Artificial Intelligence Frontiers, 2026, Behshahr, Iran (Accepted paper as Oral presentation).
- 6) S. M. Bidoki, *Smart City and Predictive Maintenance: AI Systems for Urban Infrastructure Monitoring*, The First National Congress on Maintenance and Repair of Urban Structures and Facilities, 2025, Shiraz, Iran (Accepted paper as Oral presentation).
- 7) A. Rezaei, S. M. Bidoki, *Transforming Healthcare with Artificial Intelligence: Prospects of Applications and Implementation Challenges*, 7th National Conference on Novel

- Achievements in Electrical, Computer, and Industrial Engineering, 2025, Esfarayen, Iran (Accepted paper as Oral presentation).
- 8) S. M. Bidoki, *Applications of Artificial Intelligence in Industrial Intelligence: From Healthcare to General Solutions*, 7th National Conference on Novel Achievements in Electrical, Computer, and Industrial Engineering, 2025, Esfarayen, Iran (Accepted paper as Oral presentation).
 - 9) S. M. Bidoki, F. Besharati, R. Azarban, *A Review of Artificial Intelligence Applications in Social Networks: Opportunities and Challenges*, 1st National Conference on the Era of Technological Explosion, Artificial Intelligence as a Transformation in Industry, Commerce, and Supply Chain, 2024, Tabriz, Iran (Accepted paper as Oral presentation).
 - 10) S. M. Bidoki, G. Entezar Mahdi, S. Maleknasab, *A Study on the Application of Artificial Intelligence in Text and Image Content Generation*. 7th National Conference on Modern Technologies in Electrical, Computer, and Mechanical Engineering, 2024, Bam, Iran (Accepted paper as Oral presentation).
 - 11) S. M. Bidoki, M. A. Zendehboudi, *A Review of User Interface Design Principles for Mobile Applications*. 7th National Conference on Modern Technologies in Electrical, Computer, and Mechanical Engineering, 2024, Bam, Iran (Accepted paper as Oral presentation).
 - 12) S. M. Bidoki, A. H. Noshad, *Designing Accessible User Interfaces for People with Disabilities*. 7th National Conference on Modern Technologies in Electrical, Computer, and Mechanical Engineering, 2024, Bam, Iran (Accepted paper as Oral presentation).
 - 13) E. Navabi, S.M. Bidoki, *Sentiment Analysis: A Study on Applications and Challenges*. 9th National Conference on Modern Studies and Research in Computer Science, Electrical, and Mechanical Engineering, 2024, Tehran, Iran (Accepted paper as Oral presentation).
 - 14) S. Hosseini Eghbal, S. M. Bidoki, M. A. Zareh Chahooki, *Investigating the Impact of Different Feature Extraction and Feature Selection Algorithms on Question Classification*, International Conference of Signal Processing and Intelligent Systems (SPIS2015), Tehran, Iran (Accepted paper as Oral presentation).
 - 15) S. M. Bidoki, S. Hosseini Eghbal, *Classifying and Analyzing SQL Injection Attacks*, International Conference in New Researches on Electrical Engineering and Computer Science (NREEC2015), Tehran, Iran (Accepted paper as Oral presentation).
 - 16) S. M. Bidoki, *A Web-based Routing System Considering Users' Preferences and Advices*, 6th International Conference on Management Entrepreneurship and Economic Development (EME2014), Qom, Iran (Accepted paper as Oral presentation).
 - 17) S. M. Bidoki, S. M. R. Moosavi, *Query Expansion Based on User's Feedbacks on Informative Documents*, 4th International Conference on Information Technology Management, Communication and Computer (MITC2014), Tehran, Iran (Accepted paper as Oral presentation).
 - 18) S. M. Bidoki, S. M. R. Moosavi, *IDUF: An Active Learning Based Scenario for Relevance Feedback Query Expansion*, International Conference on Information

Retrieval and Knowledge Management (IEEE CAMP 2012) (Accepted paper as Oral presentation).

- 19) S. M. Bidoki, N. Mahmoudi, M. H. Sadreddini, M. Zolghadri, *Comparing Performance of Several Clustering Techniques in Customers Load Curves Classification for Designing Tariffs in Electricity Market*, 15th National CSI Computer Conference (CSICC2010), Tehran, Iran (Accepted paper as Oral presentation).
- 20) F. Delavari, S. M. Bidoki, *An n-gram Based Model for Spam Email Detection*, National Conference on Information Technology and Economic Jihad (ITEC2012), Kazeroon, Iran (Accepted paper as Oral presentation).
- 21) S. M. Bidoki, N. Mahmoudi, M. H. Sadreddini, M. Zolghadri, M. P. Moghaddam, *Evaluating Different Clustering Techniques for Electricity Customer Classification*, IEEE PES Transmission and Distribution Conference and Exposition (T&D2010), New Orleans, USA (Accepted paper as Oral presentation).
- 22) N. Mahmoudi, M. P. Moghaddam, M. K. Sheikh-El-Eslami, S. M. Bidoki, *Improving WFA K-means Technique for Demand Response Programs Applications*, IEEE PES General Meeting (2009), Calgary, Canada (Accepted paper as Oral presentation).
- 23) N. Mahmoudi, M. P. Moghaddam, S. M. Bidoki, *Evaluating Performance of WFA K-means and Modified Follow the Leader Methods for Clustering Load Curves*, IEEE PES Power Systems Conference & Exposition (PSCE2009), Seattle, USA (Accepted paper as Oral presentation).
- 24) N. Mahmoudi, P. Teimoorzadeh, M. P. Moghaddam, S. M. Bidoki, *Classifying Electricity Consumers in Optimal Number of Classes Using Clustering Techniques*, 14th International Conference on Electric Power Distribution (EPDC2009), Kerman, Iran (Accepted paper as Oral presentation).
- 25) N. Mahmoudi, M. P. Moghaddam, S. M. Bidoki, G. R. Yousefi, *Comparison of Modified K-Means and Hierarchical Algorithms in Customers Load Curves Clustering for Designing Suitable Tariffs in Electricity Market*, 43rd International Universities Power Engineering Conference (UPEC2008), Padova, Italy (Accepted paper as Oral presentation).

RESEARCH INTERESTS AND DIRECTIONS

Currently, my research focuses on the intersection of Artificial Intelligence, Natural Language Processing, and Behavioral Sciences, with a particular emphasis on developing innovative AI-driven solutions for real-world applications. My current and ongoing research directions include:

1. Sentiment Analysis and Behavioral Prediction:

I am deeply interested in applying sentiment analysis and machine learning techniques to predict behavioral patterns and psychological schemas, particularly using the Cognitive Behavioral Case Conceptualization (CBCT) method. My work involves developing AI models to analyze textual data, such as therapy session transcripts and self-reported

narratives, to assist psychologists in understanding and predicting patient behavior. This research aims to bridge the gap between AI and psychology, providing tools that enhance the accuracy and efficiency of behavioral predictions in clinical settings.

2. **Stress Detection in Social Media Content:**

Another key area of my research is leveraging transformer-based models (e.g., BERT, GPT) to detect stress, anxiety, and emotional states from social media posts and interactions. I focus on designing explainable AI (XAI) models that provide interpretable insights into stress detection, enabling mental health professionals to make informed decisions.

3. **Explainable AI for Psychology and Behavioral Sciences:**

I am passionate about developing transparent and interpretable AI models to bridge the gap between AI predictions and human understanding, particularly in biomedical domain in which models as the black-box could not be trusted. My work involves especially collaborating with psychologists and behavioral scientists to create AI tools that are both accurate and accessible to non-technical experts. By focusing on explainability, I aim to build trust in AI systems and ensure that they can be effectively integrated into real-world psychological practices.

4. **Retrieval-Augmented Generation (RAG) for Accurate AI Models:**

I am actively investigating the application of RAG, an AI framework that retrieves facts from external knowledge bases to ground large language models on the most accurate and up-to-date information. My research focuses on enhancing the generative capabilities of LLMs by integrating external knowledge retrieval, ensuring that the models produce factually correct and contextually relevant outputs.

5. **Text Summarization and Information Retrieval:**

My work in text summarization and information retrieval focuses on advancing techniques for extracting key information from large datasets, particularly in the biomedical domain. I explore the use of query-based summarization and multi-objective optimization to improve the relevance and accuracy of summaries. This research has practical applications in areas such as medical research, where efficient information retrieval and summarization can significantly enhance decision-making processes.

CONSIDERABLE PROJECTS

Title	Languages / Technologies / Algorithms	Description
Summarizing Multiple News Documents System	Java, Stanford Core NLP, DeepLearning4J, Harmony Search, TextRank,	The summarizing system gets some related news text document as input and intelligently produce a summary containing the most important concepts of the story within all inputs documents with a desired length as its output. This system was implemented

	Clustering	as a part of my PhD dissertation.
Dentistry Expert System	CLIPS, C#	Dentistry Expert System is a rule-based intelligent system that a dentist can utilize it in the process of early diagnosis of patient situation. Dentist provides patient's symptoms and the expert system combines predefined simple rules and derives the health condition and the disease. It was implemented as a part of a joint national project between Shiraz University and Shiraz Medical Sciences University.
Semantic based web image retrieval system	Java, Stanford Core NLP, Active Learning, Relevance Feedback, Crawling	This retrieval system was developed as my M.Sc. thesis. The system crawls web pages containing images and uses the surrounding text as a sort of presentation for image's semantic. Eventually, the system utilizes textual representation of images and retrieves semantically related images to given search queries.
An Active Learning Based Classifier for Imbalanced Class Distribution	Java, Active Learning, Classification, KNN Classifier	One challenging condition in the classification task is classifying data points with imbalanced class distribution. In the other words, misclassification rate will increase if the number of data points belonging to one class is extremely higher than another classes, especially for KNN classifier. I devised a novel Active Learning based approach that could outperform the performance of KNN classifier.

CORE TECHNOLOGIES AND TOOLS

Tools: MATLAB (Engineering Problem Solving), Weka (Machine Learning), DeepLearning4J (Deep Learning), MySQL (DBMS), Burp Suite (Website PEN Test), XCode (iOS Development), NetBeans, Eclipse, PyCharm, PhpStorm, IntelliJ IDEA (Programming IDEs), Rational Rose, Microsoft Visio (Software Engineering and UML), Microsoft Projects (Project Planning).

Programming Languages / Related Technologies: Experienced in Java (J2SE), Python, PHP, Swift, C, C++
Familiar with JavaScript, JSON, XML, CSS, HTML, Bootstrap
Object-Oriented Software Design and Development, UML, Object Relational Mapping (ORM)
Agile Software Engineering Methodologies like XP, SCRUM

Professional
Training:

Secure coding with PHP, Website Penetration Testing