Roshanak Mirzaee Mazrae

rshnk.mirzaee@ut.ac.ir – rk.mirzaee.m@gmail.com

(+98) 937 155 9892 (Mobile) – (+98) 21 8850 2578(Work) – (+98) 21 2270 1305(Office)

Linkedin: https://www.linkedin.com/in/roshanak-mirzaee-011604b1/

WebSite: http://roshanakmirzaee.gwiddle.co.uk/

EDUCATION

M.Sc Computer Engineering – Algorithms & Computations (2016 – 2018)

University of Tehran (1st Iran University in **Us-news**, **Shanghai**, and **webometrics** University Ranking)

GPA: 4

Thesis: A Case-based Reasoning Approach for recommender system of interior design in Augmented Reality Platform (Improve CBR by compositional adaptation and fuzzy ontology on semantics relationships of objects to recommend an interior design sets for a scanned room with AR applications.)

B.Sc Computer Science (2012 – 2016)

Amirkabir University of Technology (Tehran Polytechnic) (2nd Iran University in **QS**, **Times**, and **Shanghai** University Ranking)

GPA: 3.48

AWARDS AND HONORS

- **3rd rank** among M.Sc Students of Computer Engineering (Algorithm & Computations) – based on GPA - in University of Tehran **(2016-2018)**
- **130th rank** in Computer Engineering M.Sc National Exam of Iran (participants: 35000)
- **4th rank** among B.Sc Students of Computer Science in – based on GPA - Amirkabir University of Technology **(2014-2016)**

RESEARCH INTERESTS

- Artificial Intelligence (machine intelligence for automation in every practical aspect of life)
- Machine Learning
- Algorithms Design (devising a new algorithm with highly accurate and speed in ML)
- Human-Computer Interaction
- Augmented Reality & Virtual Reality (as a platform for better interaction and better user experience)
- Internet of Things
- Robotics (Programming robots' behaviour)
- Knowledge-Based and Semantic-Based Filtering in Recommender Systems
- Artificial Intelligence appliances in Healthcare for diagnosing diseases and education
- Digitalize object and find a related pattern with another type of object

RESEARCH

- A smart suggest system for students interested in applying abroad

  Description: The project was built to help students find out their chance to apply at universities. The process was about comparing user data with previous data from universities containing a map between universities and inference from them.

  Co-worker: Hossein Rajabi Faghihi

- Localization based on Min-Max & Particle Swarm Optimization

  Description: Robot localization must be organized in a distributed manner because each robot has own controlling process. so after that with min-max and PSO find nearest neighborhoods and find the location by its distance from anchors in the environment. working on the main conference paper "Distributed efficient localization in swarm robotics using Min–Max and Particle Swarm Optimization"

  Supervisor: Dr. Kavoosi
- Using Case-based reasoning in problem-solving

  Description: Find Detections in website based on previous experience and learn new detection by retaining it. working on the main conference paper "Using Case-Based Reasoning for Phishing Detection".

  Supervisor: Dr. Shabankhah

ACADEMIC PROJECTS

- Classification using pattern analysis in Neural Networks

  Description: Digitalize alphabets pattern by 7*7 matrix then learns the system via various Machine learning methods. Then compute how much noises it can tolerate.

  Supervisor: Dr. Shabankhah

  Course: Machine Learning
- Enhanced Resume Analyser

  Description: The project was about extracting information into categories from pdf resume files.

  Co-worker: Hossein Rajabi Faghihi
- E-Learning System including encouragement tactics and crowdsourcing

  Description: The mission was to design an E-Learning platform for students and teachers collaborating together in term of courses and classes. Teacher questions are crowdsourced and the point assigning process was crowdsourced among students either. Students were encouraged to continue solving problems with feedback.

  Supervisor: Dr. Mohammadpour

  Course: B.Sc Projects

  Co-worker: Hossein Rajabi Faghihi
- Optimized Database Design for Social Media

  Description: The project was about designing and efficient database structure for social media including query building for several common requests. Designing complex queries and creating trigger events.

  Supervisor: Dr. Shahriyari

  Course: Principles of Database Design

  Co-worker: Hossein Rajabi Faghihi
- Mini Java Compiler (C++)

  Description: The project was about designing and coding a minimal java compiler. The process began from lexical phase to the semantic phase of the compiler. The compiler itself was written in C++ language.

  Supervisor: Dr. zare

  Course: Compiler

  Co-worker: Hossein Rajabi Faghihi

CURRENT RESEARCHES

- Using Case-Based Reasoning in recommender systems
- Using machine learning algorithms and semantic relations to improve retrieve and revise phases in Case-Based Reasoning
- Using compositional adaptation to improve Case-Based Reasoning
- Using augmented reality to recognize the environment and its objects

PUBLICATIONS

- Interior design recommender system using CBR represented by AR (In prepared)
- Compositional adaptation in CBR improved by fuzzy ontology and Apriori Algorithms (In prepared)

TEACHING

- *Training* web development to web design intern in Vestaak corporation (2017 – present)
- *Teaching* web development in vestaCamp and CS-plus learning group (2015 – present)
- *Teacher Assistant* of design and analysis of algorithms (Dr. zare, Amirkabir University of technology) (2015 – 2016)
- *Teacher Assistant* of Advanced programming (Mrs. Aliabadi, Amirkabir University of technology) (2013 – 2014)
- *Teacher Assistant* of introduction to computer & programming (Mrs. Aliabadi, Amirkabir University of technology) (2013 – 2014)

WORK EXPERIENCES

- CTO and Project Manager – Vestaak (2016 – Present)
- Freelance Developer (2015 – Present)
- Teacher in Cs-plus and Vestacamp (2015 – 2018)

ADMINISTRATION & VULUNTEER WORKS

- Organizer of Vestaak Internship – internship events to prepare students for job titles after acquiring the required skills. (2017 – Present)
- Organizer of VESTACAMP – Student preparation for job positions through professional courses. (2016 – 2018)
- Organizer of VESTAJUNIOR – Student preparation events for university courses and professional paths through seminars and courses in Amirkabir University of Technology. (2016 – 2017)
- Organizer of CSPLUS – Student peer to peer learning through seminars and events in Amirkabir University of technology. (2015 – 2016)

SKILLS

- Scientific Technique and methods
  - Machine Learning Techniques usage
  - Graphs and network algorithms
  - Human-Computer Interaction principals
  - Data mining Techniques, and algorithms usage
  - Neural networks methods
  - Internet web algorithms and applications
  - Recommender filtering
  - Case-based and rule-based reasoning
  - Compositional adaptation
  - Distributed algorithms
  - NP-compliment and NP-hard algorithms

    - Algorithm Design
    - Ontology, and Semantical Approaches
- **Programming Skills**
    - Python, Java, C / C++, JavaScript plugin and framework, React.js
    - Web Design Skills (HTML, CSS, Bootstrap, ...)
    - AR & VR using unity
    - Database Design
- **Software**
    - Latex, MATLAB, Adobe Photoshop, Adobe Illustrator

LANGUAGES

- **Persian** (Native)
- **English** (TOEFL exam will be taken soon)

ENTERTAINMENT & HOBBIES

- Reading books
- Walking in city
- Watching football matches
- Watching entertainment shows
- Searching about IT news
- Learning new languages
- Playing video games

REFEREES

- **Dr. M.Shabankhah**
    - University of Tehran, Assistant Professor
    - Science Engineering Department
    - shabankhah@ut.ac.ir
    - +98 21 61112171
- **Dr. M.Tayefe Mahmoudi**
    - Assistant Professor
    - Deputy of IT Research Faculty
    - ICT Research Institute
    - mahmodi@itrc.ac.ir
- **Dr. D.Moazemi**
    - University of Tehran, Full Professor
    - Science Engineering Department
    - dmoazzami@ut.ac.ir
    - +98 21 61112174
- **Dr. K.Badie**
    - University of Tehran, Full Professor
    - Science Engineering Department
    - k_badie@ut.ac.ir
    - +98 21 61112174
- **Dr.F.Zare**
    - Amirkabir University of Technology, Assistant Professor
    - Computer Science Department
    - F.zare@aut.ac.ir
    - +98 21 64545674