

Zahra Yousefijamarani

B.Tech. in Computer Engineering

PERSONAL DETAILS

<i>Birth</i>	September 15, 2000
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EDUCATION

B.Tech. Sharif University of Technology, Tehran, Iran

2018 - Present

Overall GPA: 18.29/20

High School Diploma Manzoumeh Kherad Institute

2016 - 2018

Overall GPA: 19.77/20

COURSES

Advanced Programming 20/20	■
Database Design 20/20	■
Computer Simulation 20/20	■
IT management & strategic planning 20/20	■
IT Ethics 20/20	■
Advance Information Retrieval 19.7/20	■
Embedded Systems 19.7/20	■
Computer Architecture & Structure 19.5/20	■
Mobile Programming 19.5/20	■
Artificial Intelligent 19.3/20	■
Compiler Design 19.3/20	■
Data & Network Security 19/20	■
Software Engineering 19/20	■
Computer Networks 18.8/20	■

INTERNSHIPS

Value Predictor Improvement

June 2022 - Present

Simon Fraser University, Burnaby, Canada

I have a collaboration with professor Alaa Alameldeen and his PhD student, Fatemeh Shokouhinia, about value predictors to perform operations speculatively, based on predictions. we are working on improving the accuracy and coverage of value predictors for Championship Value Prediction.

Java runtime for heterogeneous-ISA computing platforms

April 2022 - June 2022

University of Edinburgh, Scotland, UK

I was working with Prof. Antonio Barbalace and his PHD student, Amir Khordadi. The purpose of this research was to investigate innovative Java runtime designs for emerging heterogeneous computing platforms, and aimed at the redesign of the Java runtime in order

to generate and run software that can execute at any time on any CPU and accelerator – potentially with on the fly translations.

Smart Wearables Lab(Sleep Improvement)

October 2021 – April 2022

École de technologie supérieure (ÉTS), Montreal, Canada

I was working in Prof. Frouzanfar's lab for fall internship, and we were working on a specific sleep disorder, arousal, with the help of Machine Learning and Siamese networks to improve sleep quality. The paper will be submitted in winter 2023.

U.S. PATENT

Improvement on STT_MRAM

September 2021 - Present

University of Science and Technology, Tehran, Iran

We started a project with Prof. Amir Mahdi Hosseini Monazzah, and were working on STT_MRAMs that are important parts of Embedded systems. We want to have some improvements on the energy consumption of these memories.

RESEARCH

Bachelor's Thesis

September 2022 - Present

I'm working on my Bachelor's thesis under supervision of Prof. Hamid Sarbazi Azad and Dr. Nezam Rohbani. I am working on my B.Sc. project on improving the accuracy of the results of neural networks that are processing in memories. We proposed a new method for training the neural networks according to the ReRAM's structure and storing their weights in ReRAMs.

BASIC

July 2022 - Present

I've worked on this paper(BASIC : A Bitwise Accelerator Structure for In-SRAM Computing) with Prof. Hamid Sarbazi Azad and Dr. Nezam Rohbani at IPM Institute for Research in Fundamental Sciences. In this work we proposed an IMC technique, called A Bit-wise Accelerator Structure for In-SRAM Computing (BASIC), which is capable of performing parallel (N)AND, (N)OR, NOT, X(N)OR, row-copy, and writing the computation result back to a target operational SRAM memory row. This paper will be submitted on November 2022.

Secure and Low-power Mobile LoRa Messenger

April 2021 - September 2021

I've worked on LoRa research, that is about making mobile, low-power and secure messengers with LoRa. The preprint is available here.

RESEARCH INTEREST

- Memory architecture
- Processing in memory
- Emerging non-volatile on-chip memories
- Embedded System & IoT
- Agriculture/Environmental Monitoring System
- Cognitive Wireless Sensor-Actor Networks
- Machine Learning
- Web and mobile programming

WORK EXPERIENCE

Software developer

June 2020 – June 2022

Baset Pazhouh Novin, Tehran, Iran

Developing Software for monitoring temperature, humidity, and pressure in home appliances. Making networks for measuring hardware to connect each other and send their report to the main server.

Technical Consultant and Teacher for MIL Event

July 2020

Sharif University of Technology, Tehran, Iran

MIL is an event for learning skills in computer engineering, I worked as mobile consultant and held two seminars for computer engineering Sharif students.

Back-end Web Developer

May 2019 – June 2019

AI Challenge, Sharif University of Technology, Tehran, Iran

Helping in designing and developing a website for AI challenge competition.

Technical team of Webelopers

May 2019 – July 2019

Sharif University of Technology, Tehran, Iran

Designing Web programming Competition for Sharif Students and testing their websites.

Web Developer

June 2019 – September 2019

Pazhuhsh Co., Mirdamad, Tehran, Iran

Helping to build and enhance highly scalable and secure systems used by customers. Working closely with agile development team to develop, test and maintain Web-based software applications.

Cryptography Teacher

July 2019 – September 2010

Computer Science Summer School, Sharif University of Technology, Tehran, Iran

Assisting in teaching and introducing Cryptography methods and its history to students.

Mathematics Teacher and Consultant

August 2018 – January 2020

Vahdat High school, Tehran, Iran

Planning, preparing and reviewing the school curriculum. Working hard to plan in a way that can meet students' educational needs. Working as education consultant for virtual education.

SKILLS

<i>Languages</i>	Persian (mother tongue), English (Proficient user), Arabic (Intermediate)
<i>Team Work</i>	I have worked in various types of teams from research teams to developing teams.
<i>Programming Languages</i>	C/C++/C#, PYTHON, JAVA, HTML/CSS/JAVASCRIPT
<i>Databases</i>	ANDROID/SWIFT, MIPS/8086, VERILOG, MATLAB, P4, RACKET
<i>Softwares</i>	SQLITE, SQL SERVER, POSTGRESQL, MYSQL
	MATLAB, INTELLIJ IDEA, PYCHARM, CLION, DR. RACKET, ANDROID STUDIO, VISUAL STUDIO, ARDUINO, ALTUM DESIGNER, KEIL UVISION, PROTEUS, QUARTUS, MARS, MODEL SIM, EMU8086, PACKET TRACER
<i>Systems</i>	LINUX/UNIX, WINDOWS

TEACHER'S ASSISTANT

- Embedded Systems(Prof. Amir Mahdi Monazzah, Dr. Mohsen Ansari)
- Logic Circuits(Prof. Shahin Hesabbi)

- Programming Languages: Design and Implementation (Prof. Mohammad Izadi)
- Mobile Programming(Dr. Omid Jafarinezhad)
- Artificial Intelligent(Prof. Gholamreza Ghasemsani)
- Compiler Design(Prof. Gholamreza Ghasemsani)
- Computer Architecture(Prof. Hamid Sarbazi Azad)
- Computer Structure and Language(Prof. Hamid Sarbazi Azad)
- Computer networks(Dr. Mehdi Jafari)
- Advance Java Programming(Msc. Behnam Hatami)

PROJECT

Alter Tank Implementation

Game with C programming language.

Duelyst Implementation

Game with Java/Javafx programming language(link).

Splitwise Implementation

Web-based splitwise software(link).

Quizup Implementation

Android Quiz app(link).

Restaurant Simulation

Queuing simulation, Optimizing(link).

Intelligent Cinema

Embedded system for Monitoring, Controlling temperature, humidity, and volume, buying tickets, and scanning ticket barcodes for Cinema(link).

Python Interpreter

Implement python interpreter with Racket(link).

Cminus Compiler

Cminus compiler, lexer, parser, code generator, optimizer(link).

Weather android App

Find user's location and show weather for one week

Mafia God Assistant

Mafia Game implementation(link).

HONORS AND AWARDS

- First project of Advance programming between 218 students in Sharif University of Technology 2019
- Rank 128 out of 144437 participants in the University Entrance exam for Mathematics and Physics Majors 2018
- Rank 1 out of 318 participants in Iran's Chemistry Competition 2017