Seyed Alireza FatemiJahromi

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RESEARCH INTERESTS

Computer Graphics, Visual Computing, Machine Learning, Geometry Processing, Rendering

EDUCATION

- **Sharif University of Technology, Tehran, Iran**   *2016 - Present*
  Bachelor of Science in Computer Engineering
  Total GPA: 18.62/20 (3.9/4) — Last two years' GPA: 19.36/20 (4/4)
- **Shahid Dastgheib High School, Shiraz, Iran**   *2012 - 2016*
  Diploma, National Organization for Development of Exceptional Talents (NODET) GPA: 19.69/20

HONORS

- Recipient of the grant and membership of **Iran's National Elites Foundation**, for outstanding academic success.   *Summer 2016 - Present*
- Ranked **5th** in PAIP2020 Challenge. I presented our method at the AI Pathology Challenge Workshop at the Virtual KOSOMBE Conference. I was one of the two members of Sharif HooshPardaz Team, Supervised by Prof. Soleymani and Prof. Behroozi.   *Fall-2020*
- Ranked **5th** in Multi-organ Nuclei Segmentation and Classification (MoNuSAC) 2020 Challenge and ranked **3rd** in the Post-Challenge Leaderboard. MoNuSAC 2020 Challenge was an official satellite event of ISBI 2020. I was one of the three members of Sharif HooshPardaz Team. I presented our method at the MoNuSAC 2020 Workshop.   *Spring-2020*
- Ranked **3rd** in the Eleventh Sharif VC Cup. I was a member of Sharif HooshPardaz Team. *Winter-2020*
- Reached the final stage of Artificial Intelligence Challenge in Medical Imaging focused on Intelligent Assessment of Imaging Biomarkers of Dementia.   *Fall-2019*
- Ranked **8th** in Gleason 2019 Challenge, one of the three challenges under the MICCAI 2019 Grand Challenge for Pathology. I presented our method at the Gleason 2019 Workshop.   *Fall 2019*
- Ranked **3rd** in the First National EEG Data Analysis Competition with Clinical Applications organized by National Brain Mapping Lab (NBML).   *Summer-2019*
- Ranked **1st** in the third Sharif ICT Challenge (Fintech) among 65 chosen teams.   *Summer 2019*
- Ranked **12th** in code-cup contest among approximately 3100 participants.   *Fall 2018*
- Ranked among **top 0.08%** in Iran's National University Entrance Exam (Konkoor) among all Iranian Students (Ranked **131st** among approximately 163000 applicants) in Math. & Physics.   *2016*
- Ranked among **top 0.1%** in Iran's National University Entrance Exam (Konkoor) among all Iranian Students (Ranked **229th** among approximately 115000 applicants) in Foreign Languages.   *2016*

PUBLICATIONS

[1]* A. Khani, **S.A. Fatemi Jahromi**, H. Otroshi Shahreza, H. Behroozi, M. Soleymani Baghshah, "Towards Automatic Prostate Gleason Grading via Deep Convolutional Neural Networks", *The 5th Iranian Conference on Signal Processing and Intelligent Systems (ICSPIS 2019)*, Shahrood, Iran, 2019

[2]* **S.A. Fatemi Jahromi**, A. Khani, H. Otroshi Shahreza, H. Behroozi, M. Soleymani Baghshah, "A Deep Learning Framework for Viable Tumor Burden Estimation", *The 6th Iranian Conference on Signal Processing and Intelligent Systems (ICSPIS 2020)*, Mashhad, Iran, 2020

TEACHING EXPERIENCE

Database Design, Teacher Assistant, Fall 2020, Instructor: Prof. A. Heydarnoori, Department of Computer Engineering, Sharif University of Technology

RESEARCH & WORK EXPERIENCE

Robust and Interpretable Machine Learning Lab, Sharif University of Technology, Tehran
Research Assistant — Summer 2020 - Present

I'm currently working on my undergraduate thesis in the Robust and Interpretable Machine Learning Lab under the supervision of Prof. Rohban. My thesis is about the use of Semi-Supervised Learning and Self-Supervised Learning in the context of Adversarial Robustness.

Iran's National Elites Foundation, Tehran
Research Assistant — Spring 2019 - Summer 2020 (18 months)

I was a member of a project funded by Iran's National Elites Foundation, supervised by Prof. Behroozi and Prof. Soleymani, and focused on Medical Image Analysis using Deep Learning.

- My main objective in this project was to research state-of-the-art Deep Learning and Computer Vision methods and apply them to different applications in Medical Image Analysis. My research was focused on the classification and segmentation of different types of cancer in digital pathology images. I worked with gigapixel whole-slide images from various organs such as the Liver, Colon, and Prostate. I also worked on classifying and segmenting COVID-19 patients' CT Scan images and 3D brain MRI images. I gained experience working with different learning paradigms such as Self-Supervised Learning, Semi-Supervised Learning, and Multiple-Instance Learning.
- During this time, I also led a software team of two plus myself as a side-project. We developed a follow-up automation software used to discharge patients and help hospitals and clinics stay in touch with their patients and coordinate patients' next check-ups. It also provided patients with educational content. We developed this system for Sina Hospital. Some of the technologies we used in this project comprise React, Next.js, GraphQL, WordPress, Django, Firebase.

Iran's National Elites Foundation, Tehran
Front-end Web Developer — Spring 2019 - Summer 2019 (6 months)

I was a member of a project funded by Iran's National Elites Foundation and supervised by Prof. Heydarnoori, focused on developing a Real-time locating system. I worked as a Front-end Web Developer, and my main task was to create the admin panel of this system. Some of the technologies I used in this project comprise React, Redux, and Redux-Saga.

Rahnema College Internship, Tehran
Software Engineer & Team Leader — Summer 2018

During the 7-week internship program, I gained experience in the various areas of Software Development such as Scrum, UI/UX, Full Stack Development, etc.

TEST SCORES

TOEFL (31 October 2020): Internet-Based Test **113/120**
Reading(**30/30**), Listening(**30/30**), Speaking(**26/30**), Writing(**27/30**)

TECHNICAL STRENGTHS

Programming Languages	C, C++, Python, Java, Kotlin, JavaScript, TypeScript, Racket, MATLAB
HDL	Verilog
Machine Learning	TensorFlow, Keras, PyTorch, Scikit-learn, Pandas, NumPy
Software & Tools	LaTeX, Git, JIRA, Adobe XD
Web	React, ReactNative, Django, Gatsby, Next, GraphQL, Docker, Flask

For more information, please visit my website at seyedalirezafatemi.github.io.