

# Soroush Mirjalili

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## Education

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- **Doctor of Philosophy** **2021 - Present**  
*The University of Texas at Austin*  
Ph.D. candidate in **Cognitive Neuroscience** at The University of Texas at Austin, Austin, United States.  
Overall GPA: **4/4** via **12** credits.
- **Master of Science** **2018 - 2021**  
*Georgia Institute of Technology*  
M.Sc. in **Cognition and Brain Science** at Georgia Institute of Technology, Atlanta, United States.  
Overall GPA: **4/4** via **27** credits.
- **Bachelor of Science** **2013 - 2018**  
*Sharif University of Technology*  
B.Sc. in **Double major** of **Electrical Engineering (Control)** and **Computer Science** at Sharif University of Technology, Tehran, Iran.  
Overall GPA: **17.36/20 (3.74/4)** via **188** credits.
- **College Diploma** **2009-2013**  
*Shahid Sadoughi high school*  
High school, Physics and Mathematics.  
Shahid Sadoughi High School (branch of NODET(National Organization for Development of Exceptional Talents)), Yazd, Iran.  
GPA: **19.54/20 (4/4)**. (High School Diploma)

## Research Interests

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- **Brain-Computer Interfaces**
- **Computational and Cognitive Neuroscience**
- **Memory**
- **Machine Learning**
- **Data Analysis**

## Honors and Awards

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- Ranked **10th** nationally among nearly 252,000 participants in national university entrance exam (Konkour) from all over Iran, June 2013.

- The paper "Context memory encoding and retrieval temporal dynamics are modulated by attention across the adult lifespan" being selected as one of the **top 3** articles published on Eneuro in 2021.
- Professional Development Travel Award, UT Austin, 2022
- Former member of National Elite Foundation in Iran.
- Accepted in the First Stage of Physics, Computers, and Mathematics National Olympiad (2010)
- Accepted in the NODET(National Organization for Development of Exceptional Talents) Elementary and High School Entrance Examinations (2006 and 2009 respectively)

## Research Experience

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- **Memory and Aging Laboratory, UT Austin** **Summer 2022 – present (ongoing)**  
*Graduate research assistant*  
 My dissertation study: Investigating Episodic memory as a multi-dimensional cognitive process. Designing a visual perception, an episodic memory, a selective attention, and a sustained attention task, collecting EEG for these tasks, preprocessing the data, and conducting transfer learning analyses on the collected data.
- **Memory and Aging Laboratory, UT Austin** **Spring 2021 – present (ongoing)**  
*Graduate research assistant*  
 Using representational similarity analysis (RSA) to investigate the relationship between pattern similarities and memory performance for individuals diagnosed with Autism Spectrum Disorder.
- **Memory and Aging Laboratory, Georgia Tech** **Spring 2019 – Fall 2020**  
*Graduate research assistant*  
 Investigating the hypothesis that temporal dynamics of episodic reconstruction (from high level to low level features) are reversed to those of encoding (from low level to high level features) by decoding different context memory states using EEG signals.
- **Memory and Aging Laboratory, Georgia Tech** **Spring 2019 – Spring 2022**  
*Graduate research assistant*  
 Using representational similarity analysis (RSA) to investigate the relationship between pattern similarities, memory performance, and sleep quality across different age groups.
- **Memory and Aging Laboratory, Georgia Tech** **Fall 2018 – Fall 2020**  
*Graduate research assistant*  
 My Master's project: An Optimal Solution to a Brain-Computer Interface problem regarding the classification of different memory states (good versus bad memory states) to detect when an individual's memory is not performing well to learn a concept using his EEG signals.
- **Dr. Hajipour's laboratory, Sharif University of Technology** **Fall 2016 – Spring 2018**  
*Undergraduate research assistant*  
 An Optimal Solution to a Brain-Computer Interface Mind Reading Competition regarding the classification of a 5-class problem which determines the intention of the person over their desired movie type.

## Teaching Experiences

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**At Sharif University of Technology:**

- Teaching assistant for “Industrial Control”, By Dr. Nobakhti.
- Teaching assistant for “Linear Control Systems”, By Dr. Rezaeizadeh.

#### **At Georgia Institute of Technology:**

- Teaching assistant for “General Psychology”, By Dr. Leader.
- Teaching assistant for “Neuroscience of Behavior”, By Dr. Duarte.

## **Publications**

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- K Lee, **S Mirjalili**, A Quadri, B Corbett, A Duarte, 2022, Neural Reinstatement of Overlapping Memories in Young and Older Adults, *Journal of Cognitive Neuroscience*, 1-21
- E Hokett, **S Mirjalili**, A Duarte, 2022, Greater Sleep Variance Related to Decrements in Memory Performance and Event-Specific Neural Similarity: A Racially/Ethnically Diverse Lifespan Sample, *Neurobiology of Aging*
- **S Mirjalili**, P Powell, J Strunk, T James, A Duarte, 2021, Evaluation of classification approaches for distinguishing brain states predictive of episodic memory performance from electroencephalography, *NeuroImage*, 118851
- **S Mirjalili**, P Powell, J Strunk, T James, A Duarte, 2021, Context Memory Encoding and Retrieval Temporal Dynamics are Modulated by Attention across the Adult Lifespan, *Eneuro* 8 (1)
- **S Mirjalili**, SH Sardouie, N Samiee, 2018, A Novel Algorithm Based on Decision Trees in Multiclass Classification, 25th National and 3rd International Iranian Conference on Biomedical Engineering (ICBME)

## **Presentations and Posters**

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- **S Mirjalili**, A Duarte, November 2022, *Investigating Episodic memory as a multi-dimensional cognitive process*, Talk presented at University of Texas at Austin Cognition, Brain, and Behavior area seminar and Dallas and Austin Memory Meeting (DAAMM!) 2022.
- **S Mirjalili**, A Duarte, September 2022, *Investigating Episodic memory as a multi-dimensional cognitive process*, Big Data Neuroscience Workshop 2022 (lightning talk and poster session).
- S Justus, **S Mirjalili**, P Powell, A Duarte, April 2022, *Different patterns of episodic neural reinstatement support intact context memory performance in adults*, *Autism Spectrum*, CNS 2021.
- **S Mirjalili**, A Duarte, April 2022, *Evaluation of classification approaches for distinguishing brain states predictive of episodic memory performance from electroencephalography*, CNS 2021.
- **S Mirjalili**, April 2022, *Evaluation of classification approaches for distinguishing brain states predictive of episodic memory performance from electroencephalography*, Talk presented at University of Texas at Austin Cognition, Brain, and Behavior area seminar
- **S Mirjalili**, March 2022, *Research overview*, Talk presented at Dr. Jessica Church-Lang’s lab meeting at

University of Texas at Austin

- **S Mirjalili**, November 2021, *Context Memory Encoding and Retrieval Temporal Dynamics Are Modulated by Attention across the Adult Lifespan*, Talk presented at University of Texas at Austin Cognition, Brain, and Behavior area seminar
- K Lee, **S Mirjalili**, September 2021, *Neural reinstatement of overlapping memories under proactive interference in young and older adults*, Dallas and Austin Area Memory Meeting (DAAMM!) 2021
- **S Mirjalili**, A Duarte, April 2021, *Comparison of Different Classification Approaches Using EEG Signals to Decode Memory States*, CNS 2021.
- **S Mirjalili**, A Duarte, May 2020, *The reversion of information processing between episodic learning and retrieval across the adult lifespan*, CNS 2020.
- E Hokett, **S Mirjalili**, A Duarte, February 2020, *Better Sleep Quality Related to Greater Neural Reactivation of Associative Memory in Racially Diverse Adults Across the Lifespan*, CRIDC career fair poster competition.
- **S Mirjalili**, April 2020, *The reversion of neural information flow during reconstruction of encoded events*, Talk presented at Georgia Institute of Technology Cognition and Brain Science area seminar.

## Service and Development

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- Ad hoc reviewing for Frontiers in Human Neuroscience
- Ad hoc reviewing for The Summer Undergraduate Research Experience (SURE) program
- Mentorship for 3 undergraduate research assistants
- Peer mentorship for 1 PhD student

## Computer Applications

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- **Technical Software**  
Experienced in PSPICE (Schematic and Capture CIS) and HSPICE, Proteus, Quartus, Code Vision, MATLAB and SIMULINK, SPSS, Altium Designer, R, SAGE, LATEX.
- **Programming Languages**  
C, C++, Java, PHP, Python  
8085, 8051 Assembly, Verilog (VHDL)

## Certificates

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- Academic Research Writing for International Graduate Students, Georgia Tech, 2018

## Languages

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- Persian (native), English (professional proficiency), Italian (intermediate), Spanish (basic)