

# Navid Akbari

## Curriculum Vitae

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### Education

- 2021–2023 **M.Sc. in Computer Science**, Faculty of Science, University of Calgary, Calgary, Canada
- GPA: 4/4
  - Supervisors: Dr. Mea Wang and Dr. Diwakar Krishnamurthy
  - Thesis: iStream platform, a flexible container-based multimedia streaming application
- 2016–2020 **B.Sc. in Engineering Science in Computer Science sub-field**, *Department of Engineering Science*, Faculty of Engineering, University of Tehran, Tehran, Iran
- Overall GPA: **18.35/20** (1<sup>st</sup> Rank among all the students of the Department)

### Research Interests

- Cognitive Neuroscience
- Computational Neuroscience
- Machine Learning
- Cloud Computing

### Work Experience

- Sep. 2023 - **Research Assistant at Nicola Computational Neuroscience Lab**, *University of Calgary, Canada*  
Present Employed as a Machine Learning Scientist, contributing to the development of an innovative Spiking Neural Network (SNN) using the Conductance-Based Morris-Lecar Model.
- Sep. 2020 - **Software Engineer at Pegah Co. (known as Tapsell)**, *Tehran, Iran*  
Nov. 2020 Tapsell is the leading company in the online advertising industry in Iran. I am working in the front-end chapter and helping to do some beneficial projects for all the company teams.
- Summer 2019 **Internship at Parto Negar Persia Co.**, *Tehran, Iran*  
Contributing to the research and development of one of the company projects. Also, I developed a web page and helped for debugging an android application for the project.
- Summer 2018 **Research Center**, *University of Tehran, Tehran, Iran*  
Connecting the NodeMCU ESP8266 module to the flowmeter module and sending its data via the Internet and HTTP to the server and save it to the MySQL database.

### Publication

Accepted "iStream: A Flexible Container-Based Testbed for Multimedia Streaming," IEEE MIPR 2023

### Awards and Honors

- Fall 2022 **Faculty of Graduate Studies International Master's Scholarship** from Graduate Award Competition, University of Calgary - Amount: CAD 10,000
- Winter 2022 **Departmental Research Assistant Award** from Faculty of Computer Science, University of Calgary - Amount: CAD 11,000
- 2021 & 2022 **International Graduate Student Recruitment Award** from Faculty of Computer Science, University of Calgary - Amount: CAD 2,000

- 2019            **Received Scholarship** from the University of Tehran Sponsors Foundation as an exceptional talent student
- 2017 – 2019    **Received Scholarship** from Faculty of Engineering as an exceptional talent student
- 2017 & 2019    **F.O.E (Faculty of Engineering) Award:** Ranking 1<sup>st</sup> among all of Engineering Science students, University of Tehran

## *Summer School*

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- Summer 2023    **Computational Neuroscience** Course in Neuromatch Academy  
Project title: Human Connectome Task Analysis, Classifying Tasks from BOLD Signal

## *Selected Teaching Experience*

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- Fall 2021    - Teaching Assistant, "**Explorations in Information Security and Privacy**"  
Winter 2023    Instructor: Dr. R. Henry, University of Calgary
- Winter 2021    Teaching Assistant, "**Introduction to Computer Science for Computer Science Majors II**"  
Instructor: Dr. J. Tam, University of Calgary
- Fall 2019    - Teaching Assistant, "**Computer Networks**"  
Spring 2020    Instructor: Dr. A. Khonsari, University of Tehran
- Fall 2019    Teaching Assistant, "**Numerical Analysis Methods**"  
Instructor: Dr. H. M. Darian, University of Tehran
- Fall 2018    Teaching Assistant, "**Data Structures**"  
Instructor: Dr. A. Kamandi, University of Tehran
- Fall 2018    Teaching Assistant, "**Systems Analysis**"  
Instructor: Dr. S. Mirzai, University of Tehran

## *Selected Academic Projects*

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- Spring 2021    **Implementation** of five projects on different machine learning topics such as Image Classification with CNN and FCN, Auto-encoder model to denoise an image dataset, U-net model for signal denoising, RNN model to predict new daily cases of COVID-19 in Python and Jupyter Notebook  
Advisor: Dr. R. Souza, Data Mining and Machine Learning
- Spring 2021    **Classification** of Driving Behaviours Based on Deep Learning Algorithms like CNN and LSTM  
Advisor: Dr. R. Souza, Data Mining and Machine Learning
- Spring 2020    **Implementation** of seven projects on different artificial intelligence topics such as Search Algorithms, Genetic Algorithms, Classification, Multi-layer Neural Networks, and Regression. All these projects were implemented in Python and Jupyter Notebook  
Advisor: Dr. H. Fadaei, Artificial Intelligence Course
- Spring 2020    **Implementation** of a simple version of channel coding using Huffman algorithm and source coding using Convolutional encoding in Python  
Advisor: Dr. P. Shariatpanahi, Data Transmission Course
- Fall 2019    **Development** of a web application for "Meeting Management System" using Django for backend, React for frontend  
Advisor: Dr. R. Khosravi, Software Engineering Course
- Fall 2019    **Implementation** of GHS distributed algorithm for finding the minimum spanning tree in a graph by using the Kompics framework and Java  
Advisor: Dr. F. Faghieh, Distributed Systems Course
- Fall 2019    **Implementation** of MapReduce distributed algorithm for counting the number of each word in the given file by using the Kompics framework and Java  
Advisor: Dr. F. Faghieh, Distributed Systems Course

- Spring 2019     **Implementation** of a BitTorrent system with custom network topology using Mininet virtual machine and Python  
 Advisor: Dr. A. Khonsari, Computer Networks Course
- Spring 2019     **Development** of a web application for "Occupation Finding System" using java, web languages, and MySQL for Database  
 Advisor: Dr. E. Khamespanah, Internet Engineering Course
- Fall 2018        **Implementation** of a multithreaded neural network using pthread and semaphores in C++  
 Advisor: Dr. M. Kargahi, Operating Systems Course
- Fall 2018        **Simulation** of solar system using n-body problem approach using Matlab  
 Advisor: Dr. H. Darian, Numerical Analysis Methods 1 Course
- Spring 2018     **Implementation** of image noise reduction and image compression with Huffman Coding and Zig-Zag pattern using Matlab  
 Advisor: Dr. A. Adhami, Systems Analysis Course

## Technical Skills

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- Programming    Python, C/C++, Java, JavaScript, MATLAB, SQL
- Web/DB Tech- HTML, CSS, Bootstrap, NodeJS, ReactJS, Angular, Docker, MySQL  
 nologies
- Tools            Git, L<sup>A</sup>T<sub>E</sub>X, WireShark, Mininet, Kompics, Alloy, IntelliJ IDEA, Visual Studio Code, DataGrip, Postman, Simulink, MS Word, MS Excel, MS Powerpoint
- Operating Sys- Mac OS, Microsoft Windows, Linux(Esp. Ubuntu, Kali)  
 tems

## Volunteering and Activities

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- 2022–Present    **President** of Persian Gulf Club Association in University of Calgary
- 2021–2022       **Vice president Internal** of Computer Science Graduate Society
- 2017–2019       **Member of** Student Association of Engineering Science
- Fall 2017        **Member of** executive of the 3<sup>rd</sup> Engineering Science Conference

## Languages Skills

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**Persian:** Native

**English:** Fluent

IELTS scores: Overall 7.0 (Listening: 8.5 - Reading: 7.0 - Speaking: 6.5 - Writing: 6.0)

**Arabic:** Only Reading

## References

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Excellent references are available upon request