

Seyed-Youns Sadat-Nejad

Ph.D. Student

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Toronto, Canada 

EDUCATION

Doctor of Philosophy in Biomedical Engineering

Sep 2019 – Present

Institute of Biomaterials & Biomedical Engineering (IBBME) - University of Toronto

Supervisor: Dr.Azadeh Kushki

Master of Science in Electrical and Computer Engineering

Sep 2017 – Aug 2019

Ryerson University

Supervisor: Dr.Soosan Beheshti

Bachelor of Biomedical Engineering (with honors)

Sep 2013 – Apr 2017

Ryerson University

Supervisor: Omar Grant

RELEVANT EXPERIENCE

Instructor – Element of Product Design (ELIC105)

Sep 2019 – Present

Humber College

Co-Founder and CTO

Sep 2018 – Present

Veebar Tech Inc. ([Link](#))

Teacher Assistant – Control Systems and Bio-Robotics (BME 639)

Jan 2018 – Apr 2018 & Jan 2019 – Apr 2019

Ryerson University

Instructor: Dr.Saba Sadeghzadeh

Head Teacher Assistant – Signals and Systems I (BME 532)

Sep 2018 – Dec 2018 & Sep 2019 – Dec 2019

Ryerson University

Instructor: Dr.Soosan Beheshti

Research Assistant – Machine Learning Data Training and GUI Development

Apr 2017 – Aug 2017

Think Dirty Inc. / Ryerson University

Supervisor: Dr.Soosan Beheshti

Research Assistant – Image Processing

Apr 2016 – Aug 2016

Ryerson University

Supervisor: Dr.Dimitri Androutsos

Course Development

Co-Author of Online Open Course Development– Signals and Systems ([Link](#))

Sep 18 – Aug 2020

Ryerson University

Author and Instructor – Element of Product Design (ELIC105)

Sep 2019

Humber College

PUBLICATION

Efficient High Resolution sLORETA in Brain Source Localization

Sep 2020

Publication Type: Journal

Publisher: Journal of Neural Engineering

First Author, Co-Authors: Dr.Soosan Beheshti

Status: Submitted

Efficient Blinking Component Estimation in Subspace-based EEG and MEG Analysis

Nov 2019

(Best Student Paper Contest Finalist)

Publication Type: Conference Paper

Publisher: IEEE, Asilomar Conference on Signals, Systems, and Computers

First Author, Co-Authors: Dr.Soosan Beheshti

Status: Accepted, Published

Perceptually Inspired Normalized Conditional Compression Distance

Nov 2019

Publication Type: Conference Paper

Publisher: IEEE, Asilomar Conference on Signals, Systems, and Computers

Last Author, Co-Authors: Nima Nikvand, Zhou Wang, Wisam Farjow, Xavier Fernando

Status: Accepted, Published

Higher Resolution sLORETA (HR-sLORETA) in EEG Source Imaging

July 2019

Publication Type: Conference Paper

Publisher: IEEE, Engineering in Medicine and Biology Conference (EMBC)

First Author, Co-Authors: Dr.Soosan Beheshti

Status: Accepted, Published

Automated EEG Source Error Thresholding (AESET) in L2-Regularization Inverse Problems

June 2019

Publication Type: Conference Paper

Publisher: IEEE, 16th Canadian Workshop on Information Theory

First Author, Co-Authors: Dr.Soosan Beheshti

Status: Accepted, Published

Efficient Pre-Processing and Automated Post-Processing in EEG/MEG Brain Source Signals Analysis

2019

Publication Type: Master's Degree Thesis

Publisher: Ryerson University

Status: Accepted

Postural Correction Through Sensory Driven Feedback

Aug 2017

Publication Type: Bachelor's Degree Thesis

Publisher: Ryerson University

Status: Accepted, Published

INTELECTUAL PROPERTY

Patents

SYSTEM AND METHOD FOR ALERTING A USER TO THE PRESENCE OF ENVIRONMENTAL SOUNDS

Sep 2019

Co-Authors: Ayda Naseraliabadi

Patent issuer and number: : us 62/899,853

Status: Granted

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NoSEE (Number of source Eigenvalue Error) code

2019

Co-Authors: Dr.Sosan Beheshti

Filling Date: 21/06/2019

Complex Numbers – MATLAB Interactive GUI

2019

Co-Authors: Dr.Sosan Beheshti

Sinc Function – MATLAB Interactive GUI

2019

Co-Authors: Dr.Sosan Beheshti

Dirac's Delta – MATLAB Interactive GUI

2019

Co-Authors: Dr.Sosan Beheshti

Exponential Signal (Spiral) – MATLAB Interactive GUI

2019

Co-Authors: Dr.Sosan Beheshti

Basic Signal Operation – MATLAB Interactive GUI

2019

Co-Authors: Dr.Sosan Beheshti

Adding Two Signals – MATLAB Interactive GUI

2019

Co-Authors: Dr.Sosan Beheshti

Signals Generated From Five Spirals – MATLAB Interactive GUI

2019

Co-Authors: Dr.Sosan Beheshti

Fourier Series of Sum of Two Cosine Signals – MATLAB Interactive GUI

2019

Co-Authors: Dr.Sosan Beheshti

Fourier Series with Seven Spirals – MATLAB Interactive GUI

2019

Co-Authors: Dr.Sosan Beheshti

Fourier Series of a Cosine Signal – MATLAB Interactive GUI

2019

Co-Authors: Dr.Sosan Beheshti

Periodic Spirals (Basis of Fourier Series) – MATLAB Interactive GUI

2019

Co-Authors: Dr.Sosan Beheshti

AWARDS AND ACHIEVEMENTS

Norman Esch Engineering Innovation & Entrepreneurship Awards Stage III

2020

Organization: Centre for Engineering Innovation and Entrepreneurship (CEIE) – Ryerson University

Associated with: Veebar Tech

Amount: : \$25,000

Social Venture Prize – Development Fund

2019

Organization: Social Venture Zone – Ryerson University

Associated with: Veebar Tech

Amount: : \$3,000

The Best Startup of International Competition

2019

Organization: Ridout & Maybee LLP*Associated with:* Veebar Tech*Amount:* : \$5,000 toward legal services**GRAD Contest Award T-Shirt Design**

2019

Organization: School of Graduate Studies – Ryerson University*Associated with:* Master`s degree*Amount:* : \$1,500**The Best Teaching Assistant TA/GA Awards**

2018-2019

Organization: School of Graduate Studies – Ryerson University*Associated with:* Master`s degree*Amount:* : \$500**Norman Esch Engineering Innovation & Entrepreneurship Awards Stage II**

2018-2019

Organization: Centre for Engineering Innovation and Entrepreneurship (CEIE) – Ryerson University*Associated with:* Veebar Tech*Amount:* : \$8,000**Ontario Graduate Scholarship (OGS)**

2017-2019

Organization: Ontario Graduate Studies*Associated with:* Master`s degree*Amount:* : \$15,000/year**Norman Esch Engineering Innovation & Entrepreneurship Awards Stage I**

2017-2018

Organization: Centre for Engineering Innovation and Entrepreneurship (CEIE) – Ryerson University*Associated with:* Veebar Tech*Amount:* : \$5,000**Undergraduate Excellence Award**

2016-2017

Organization: Ryerson University*Associated with:* Bachelor`s Degree*Amount:* : \$1,000**Gordon and Agnes (Twambley) Brash Award**

2016-2017

Organization: Ryerson University*Associated with:* Bachelor`s Degree*Amount:* : \$3,000**Entrance Scholarship Award**

2013-2014

Organization: Ryerson University*Associated with:* Bachelor`s Degree*Amount:* : \$3,000**Golden Key Member**

2014-Present

Organization: Golden Key International Honor Society*Associated with:* Bachelor`s Degree**Dean`s List**

2013-2017

Organization: Golden Key International Honor Society

Associated with: Bachelor's Degree

VOLUNTEER ACTIVITIES

Student Theme Lead – Healthcare AI and Analytics (HAA)

Aug 2020 - Present

Organization: iBEST , ST.Michael's Hostpital

Secretary – Institute of Electrical and Electronics Engineers (IEEE)

Sep 2019 - Present

Organization: IEEE Toronto, Instrumentation measurement and Robotic Automation Chapter

President of External Communication – First Institute of Canadian Inventors (FICI)

2018 - 2019

Organization: First Institute of Canadian Inventors Ryerson Chapter

Guest Speaker – Frontier of Health Li Ka Shing Knowledge Institute Conference

July 2019

Organization: St. Michael's Hospital

Guest Speaker and Panelist – Tetra Ryerson Conference

Mar 2019

Organization: Ryerson University

Workshop Instructor – EEG Signal Processing Using MATLAB ToolBox

Mar 2019

Organization: Biomedical Engineering Course Union (BECU)

Graduate Representative – Formal Meet & Greet and our Alumni Night

Sep 2018

Organization: Biomedical Engineering Student Society (BMES), Ryerson University

LEADERSHIP

Co-Op Supervisor – Humber College

Jun 2020 -August 2020

Tasks: Supervised two Humber college students for their summer co-op program.

Facilitator – IEEE Toronto

2018 - Present

Tasks: Planned and facilitated more than 20 set of workshops including 12 IEEE-certified workshops and tutorials focused on Artificial Intelligence, Deep Learning, Entrepreneurship, and Internet of Things.

Facilitator – Woman in Engineering (WIE)

2019 - Present

Tasks: Helped on planning, design and promoting of various WIE seminars and conferences.

Mentorship – IEEE Humber Chapter

May 2019 -August 2019

Tasks: Supervised and mentored eight college students during summer teaching session for development of IoT-based system.

Competition Judge – Ryerson Zone-Learning Entrepreneurship Pitch Competition

Feb 2019

Tasks: Judged an entrepreneurship pitch competition hosted by Ryerson Zone-Learning "E to the X" with more than 30 undergraduate students involved.

President of External Communication – First Institute of Canadian Inventors (FICI)

2018 - 2019

Tasks: Recruited students passionate about innovation and entrepreneurship to participate in national and international competition on behalf of Canada. Representing over 100 students and four start-ups. Result of this work was sending student named *Bolis Ibrahim* - CEO –

Argentum from Ryerson University, to attend the international competition at South Korea in which he won a gold medal as representator of Canada.

Journal Review Activities

Journal Reviewer – Signal, Image and Video Processing (SIVP)

2019 - Present

Organization: Springer Nature

Number of reviews: 9 Journals

Journal Reviewer – Institution of Engineering and Technology (EIT)

2019 - Present

Organization: EIT Signal Processing

Number of reviews: 2 Journals

Conference Review Activities

Conference Reviewer – The Engineering in Medicine and Biology Conference (EMBC)

2019

Organization: IEEE EMBS

Number of reviews: 1 Conference

Conference Reviewer – Biomedical and Health Informatics (BHI)

2019

Organization: IEEE EMBS

Number of reviews: 2 Conference

CERTIFICATES

TCPS2: Ethical Conduct for Research Involving Humans Course on Research Ethics

Sep 2019

On-line privacy training

Aug 2019

Collaborative Institutional Training Initiative (CITI Program)

Sep 2019

Worker Health and Safety Awareness

Sep 2019

Workplace Hazardous Materials Information System

Jul 2018

Access to Information and Protection of Privacy online course

Jul 2018

The Art of Communication in Graduate Science and Engineering

Jul 2017

Professional Development in Teaching Program Level 1 (SEDA UK)

ma 2017

Environmental Health and Safety Awareness

Jul 2017

Exam Administration Training

Sep 2017

MUSICAL COMPOSITIONS

Composer – Skyline

2015

Instrumentation Tags: Electronic Music, P.A.U.S.E. Music

Record Label: BreatLounge Records

<https://www.beatport.com/track/skyline-original-mix/6309013>

Composer – People Are Beautiful

2015

Instrumentation Tags: Electronic Music, P.A.U.S.E. Music

Record Label: BreatLounge Records

<https://www.beatport.com/track/people-are-beautiful-original-mix/6309014>

Composer – Blue Wave

2015

Instrumentation Tags: Electronic Music, P.A.U.S.E. Music

Record Label: BreatLounge Records

<https://www.beatport.com/track/blue-wave-original-mix/6309015>

Composer – Visual Agnosia

2015

Instrumentation Tags: Electronic Music, P.A.U.S.E. Music

Record Label: BreatLounge Records

<https://www.beatport.com/track/visual-agnosia-original-mix/7292077>

Composer – Nobody Care What We Say

2015

Instrumentation Tags: Electronic Music, P.A.U.S.E. Music

Record Label: BreatLounge Records

<https://www.beatport.com/track/visual-agnosia-original-mix/7292077>

INTERESTS

- Graph Representation Learning / Graph Neural Network
- Learning Theory / Machine Learning / Deep Learning
- Biomedical Signal Processing / Statistical Signal Processing
- EEG Signal Processing / Brain Source Localization / Inverse Problem
- Brain / Neuroscience

SKILLS

MATLAB/Python/C/C++

Latex / Microsoft

Copywriting

Arduino/Embedded System Design

HTML5&CSS3

SolidWorks / AutoCAD

Teaching / Research

Leadership

Public Speaking

Strategist / Problem Solving

Management