

Alireza Mahmoudi Kamelabad

SOCIAL ROBOTICS · COGNITIVE LINGUIST

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Education

PH.D. IN COMPUTER SCIENCE

Stockholm, Sweden

KTH Royal Institute of Technology – School of Electrical Engineering and Computer Science

Apr. 2021 - Apr. 2025

- PhD student at the Speech, Hearing, and Music division of Intelligent systems department of Electrical Engineering and Computer Science School.

M.SC. IN COGNITIVE SCIENCE (LANGUAGE AND MULTIMODAL INTERACTION)

Rovereto, Italy

University of Trento - Center for Mind/Brain Studies (CIMEC)

Sep. 2018 - Oct. 2020

- Thesis: *Computational Models of Lexical Acquisition: Predicting the Age of Acquisition of Different Grammatical Classes.*

M.A. IN HUMAN-COMPUTER INTERACTION

Trento, Italy

University of Trento – Computer Science (DISI) and Cognitive Science and Psychology Department (CogSci)

Sep. 2017 - Aug. 2018

- Affective Computing
- Participatory Design
- User-Centered Design

B.SC. IN COMPUTER SCIENCE

Tehran, Iran

Shahid Beheshti University

Sep. 2011 - Feb. 2017

- Theoretical and Practical Computer Science
- Advanced Mathematics

Work Experience

PHD RESEARCHER

Stockholm, Sweden

KTH Royal Institute of Technology – Division of Speech, Music and Hearing

Apr. 2021 - Present

- Doctoral researcher in the intelligent systems department working on social robotics, language acquisition, and education.

ASSOCIATE RESEARCHER

Stockholm, Sweden

Furhat Robotics

Oct. 2020 - Mar. 2021

- Teaching language to children through social robots.
- Social robotics with Furhat Robot to study language acquisition in the digital age.

GUEST RESEARCHER

Tilburg, Netherlands

Tilburg University – Department of Cognitive Science and Artificial Intelligence

Mar. 2020 - Sep. 2020

- Member of Computational Linguistics Group of Tilburg University.
- Conducting research about the role of Adjectives in Computational Models of Language Acquisition.

TEACHER ASSISTANT

Tilburg, Netherlands

Tilburg University

Dec. 2019 - Mar. 2020

Helping teachers with preparing the course material, correcting the exams, and give technical seminars to students. – *Instructor:*

dr. Wendy Powell

RESEARCH INTERNSHIP TRAINEE

Tilburg, Netherlands

Tilburg University – Department of Cognitive Science and Artificial Intelligence

Oct. 2019 - Feb. 2020

- I was involved in a research project about Computational Modelings of Language Acquisition, and the analysis of such models with deep learning methods. This experience is part of my master's degree curriculum. – *Supervisor: dr. Afra Alishahi*

TEACHER ASSISTANT IN IMAGE PROCESSING

Tehran, Iran

Shahid Beheshti University

Sep. 2015 - Feb. 2016

Helping the teacher in teaching the image processing course.

Research & Publication

CURIOSITY IN SELF-SUPERVISED ACTIVE WORD LEARNING

Potsdam, Germany

Proceedings of The 26th Architectures and Mechanisms for Language Processing Conference (AMLaP 2020)

September, 2020

- Cognitive models of child word learning in general, and cross-situational models in particular, characterize the learner as a passive observer. But children are curious and actively participate in verbal and non-verbal communication, and often introduce new topics which parents are likely to follow up (Bloom et al., 1996). We investigate the potential impact of curiosity on word learning through a series of computational experiments. Our simulation results show that a curious learner who actively and curiously influences the language input it receives learns faster and more robustly, and reaches better performance.
- Other Authors: [Lieke Gelderloos](#), [Afra Alishahi](#)
- [Read more](#)

COMPUTATIONAL MODELS OF LEXICAL ACQUISITION: PREDICTING THE AGE OF ACQUISITION OF DIFFERENT GRAMMATICAL CLASSES.

Tilburg(NL) – Rovereto(IT)

Master's Thesis | Tilburg University – Trento University

September, 2020

- I look at the performance of Age of Acquisition prediction by the LSTM language model trained on child-directed speech and analyse the behaviour of this neural network.
- Supervisor: [dr. Aurelie Herbelot](#), Co-Supervisor: [dr. Afra Alishahi](#)

ACTIVE WORD LEARNING THROUGH SELF-SUPERVISION

Tilburg, Netherlands

Proceedings of the 42nd Annual Conference of the Cognitive Science Society

Jan. 2020

- We presented a computational study of cross-situational word learning to investigate whether a curious word learner who actively influences linguistic input in each context has an advantage over a passive learner. Our computational model learns to map words to objects in real images by self-supervision through simulating both word comprehension and production.
- Other Authors: [Lieke Gelderloos](#), [Afra Alishahi](#)
- [Read more](#)

THE EFFECT OF SUBJECTIVITY FEATURES ON COMPLEX WORD IDENTIFICATION TASK

Rovereto, Italy

Individual Research on Text Simplification | CIMeC

May, 2019

- I investigate and evaluate the effect of subjectivity features of word complexity for Non-native language learners of English, on Complex Word Identification task of Lexical Simplification pipeline.
- Supervisor: [dr. Carlo Strapparava](#)

EYE TRACKING AS A DIAGNOSTIC TOOL FOR ADHD

Povo, Italy

Research proposal in Affective Computing

Mar. 2018

- A research through how to diagnose ADHD using eye tracking. Based on f-MRI feedback technique used as a diagnosis and treatment for ADHD.
- Instructor: [prof. dr. Nicu Sebe](#)

PROTOTYPING A SOLUTION FOR COMMUNICATION PROBLEMS IN SCHOOLS OF PERGINE

Pergine, Italy

Project in Participatory and User-centered Design | Elementary School G. Rodari (Pergine) & University of

Trento

Dec. 2017

- Instructors: [dr. Vincenzo D'Andrea](#) – [prof. Antonella De Angeli](#)

MULTITHREADING IN ANDROID, LIBRARIES AND POSSIBLE OPTIMIZATIONS

Tehran, Iran

Bachelor Thesis | Shahid Beheshti University

Dec. 2016

- Supervisor: [dr. Mahmoud Fazlali](#)

Skills

SKILLS

RESEARCH METHODS	Computational Modeling, Deep Learning, Language Processing					
WRITING & FORMATTING	LaTeX, Markdown, Microsoft Office Suite, Libre Office					
PROGRAMMING	Python Professional	Kotlin Furhat OS	MATLAB Computer Vision	R Research Essentials		
LIBRARIES & TOOLKIT	PyTorch, NLTK, Psychtoolbox					
LANGUAGES	ENGLISH C1	ITALIAN C1	PERSIAN Native	AZERBAIJANI Native	RUSSIAN A1	ARABIC Intermediate

INTERESTS

RESEARCH Artificial Intelligence, Computational Linguistics, Language Acquisition, Cognitive Science

GOAL Implimenting the Theory of Mind in artificial agents.

Teaching Experience

TEACHING ASSISTANT

- 2014-2015 **DIGITAL DESIGN AND COMPUTER ARCHITECTURE**, At Shahid Beheshti University for two semesters. Tehran, Iran
- 2013 **FUNDAMENTALS OF COMPUTER AND PROGRAMMING**, At Shahid Beheshti University for one semester teaching introduction to computer programming with C language. Tehran, Iran

Participation and Attendance

THE 26TH ARCHITECTURES AND MECHANISMS FOR LANGUAGE PROCESSING CONFERENCE – AMLAP 2020

University of Potsdam

- Having an abstract in the proceedings and attending the conference.

Potsdam, Germany

September 3rd – 5th, 2020

42ND ANNUAL VIRTUAL MEETING OF THE COGNITIVE SCIENCE SOCIETY – CogSci 2020

University of Toronto

- Attending the conference and answering questions about the presentation we had about our work.

Toronto, Canada

July 30th, 2020

EXPERIMENTAL METHODS IN LANGUAGE ACQUISITION RESEARCH 2020

Utrecht University

- Attending the Tutorials of:
 - Statistics with R
 - ERP
 - Ethics and privacy
 - Automatic speech recognition
 - CHILDES

Online, Netherlands

April 16th to 17th, 2020

COMPUTATIONAL LINGUISTICS IN THE NETHERLANDS 30, ATTENDER AND ORGANIZER

Utrecht University

- Conference Attendance
- Student Volunteer

Utrecht, Netherlands

January 30th, 2020

WINTER SCHOOL: "EDUCATION AS A COMMON GOOD"

University of Innsbruck, University of Bolzano, and University of Trento

- Introduction to Commons and Education
- Introduction to Ecologies of Learning
- Conceptual Design and Prototyping
- Effectiveness, Efficiency and Usability
- Visual, Audio or Tangible Prototype Creation
- Industry and UX Design Research Projects

Trento, Italy

December 4th to 6th, 2017

Volunteer Services

VOLUNTEER STUDENT AT CLIN30 CONFERENCE

Computational Linguistics in the Netherlands 30 | Utrecht University

I worked as a student volunteer helping in the organization of this conference. – reference: Prof. Jan Odijk

Utrecht, Netherlands

30 Jan 2020

SECRETARY & MEMBER OF COMPUTER SCIENCE SCIENTIFIC ASSOCIATION (CSSA)

Department of Computer Science | Shahid Beheshti University

- (Jan 2012 - Jan 2014) Secretary: I won the CSSA election of the year 2012 as the president and secretary. During two years of my experience as the secretary, I achieved management, event planning, seminar planning skills, and I specially enhanced my professional communication ability.
- (Oct 2011 - Jan 2012) Member: As a volunteer regular member of CSSA I was working as volunteer staff in Conferences and Seminars. I was also participating in all the events managed by the association.

Tehran, Iran

Oct. 2011 - Jan. 2014

PRIMARY AND HIGH SCHOOL TEACHER AT A SCHOOL SPECIAL TO CHILD LABOUR

Farahzad Science House | SOSAPOVERTY

I have been part of this charity as a teacher for the labour children, who are forced to work intolerable jobs (as worker or peddler alongside busy streets) with no access to health care, education, or food.

Tehran, Iran

Oct. 2012 - Mar. 2014

Honors & Awards

FUNDS

2018 **FULL SCHOLARSHIP**, Cognitive Science master's merit scholarship winner from University of Trento

2017 **SCHOLARSHIP**, Human-Computer Interaction master's merit tuition fee waver from University of Trento

Trento, Italy

Trento, Italy

AWARDS

Extracurricular Activity & Membership

MEMBER

Seattle, WA 98105

Cognitive Science Society

Jan. 2020 - PRESENT

- A regular member of Cognitive Science Society.
- Oral Presentation of Active Word Learning in CogSci 2020 Conference.

DANCE INSTRUCTOR & DANCER

Trento, Italy

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Sep. 2017 - PRESENT

- In this dance group we organize the social dance group sessions of neo-classic folk dances known as BalFolk. I am more experienced with these dances: Mazurka, Scottish, Iranian, Valhermeil, and Chappeloise.

References

References Available upon request