# ALI REZA IBRAHIMZADA

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## EDUCATION

**University of Illinois Urbana-Champaign** — **Illinois, USA**
*Doctor of Philosophy in Computer Science; GPA: 4.00/4.00* — *Aug 2022 - May 2027*
*Advisor: Reyhaneh Jabbarvand*

**Marmara University** — **Istanbul, Turkey**
*Bachelor of Science in Computer Engineering; GPA: 3.98/4.00* — *Jun 2020 - Jul 2022*
*Thesis: Depth Estimation of Stereo Images using Deep Learning*
*Advisor: Mehmet Kadir Baran*

**Istanbul Sehir University** — **Istanbul, Turkey**
*Bachelor of Science in Computer Science; GPA: 3.96/4.00* — *Aug 2018 - Jun 2020*

## HONORS AND AWARDS

**Valedictorian of Class of 2022** — *Sep 2022*
Ranked 1st among roughly 1000 graduates in the Engineering Faculty and the Department of Computer Engineering at Marmara University

**Summa Cum Laude (High Honors)** — *Sep 2022*
Summa Cum Laude (High Honors) Award for graduating with 3.98 / 4.00 GPA at Marmara University

**Ray Ozzie Computer Science Fellowship** — *Aug 2022*
Full tuition waiver and monthly stipend during the first year of PhD program at the University of Illinois Urbana-Champaign

**The Best Senior Graduation Project of the Year** — *Jun 2022*
Our project "Depth Estimation of Stereo Images using Deep Learning" has been awarded The Best Graduation Project of the Year by the Department of Computer Engineering at Marmara University

**Academic Achievement Scholarship** — *Jul 2019*
100% tuition waiver in accordance with high GPA in 2019-2020, 2020-2021, and 2021-2022 academic years, awarded by Istanbul Sehir University & Marmara University

**Valedictorian of High School** — *Jan 2017*
Graduated as the Valedictorian in High School with 3.96/4.00 GPA, awarded by KEN

## PUBLICATIONS

### Conference Publications

C1. **A. R. Ibrahimzada**, Y. Varli, D. Tekinoglu, and R. Jabbarvand, *"Perfect Is the Enemy of Test Oracle"*, The ACM Joint European Software Engineering Conference and Symposium on the Foundations of Software Engineering (ESEC/FSE), Singapore, November 2022

C2. A. Cakmak, **A. R. Ibrahimzada**, S. Arikan, H. Ayaz, S. Demirkol, D. Sonmez, M. T. Hakan, S. S. Turan, C. Horozoglu, O. Kucukhuseyin, B. Kiran, S. U. Zeybek, M. Baysan, and I. Yaylim, *"Predicting the Predisposition to Colorectal Cancer based on SNP Profiles of Immune Checkpoints Using Supervised Learning Models"*, VII. International Molecular Medicine Congress, Istanbul, Turkey, September 2019

## Journal Publications

**J1.** A. Cakmak, H. Ayaz, S. Arıkan, **A. R. Ibrahimzada**, Ş. Demirkol, D. Sönmez, M. T. Hakan, S. T. Sürmen, C. Horozoğlu, M. B. Doğan, Ö. Küçükhüseyin, C. Cacına, B. Kıran, Ü. Zeybek, M. Baysan, and İ. Yaylım, *"Predicting the predisposition to colorectal cancer based on SNP profiles of immune phenotypes using supervised learning models"*, Medical & Biological Engineering & Computing, Springer Berlin Heidelberg, Vol. 61, 243–258, 2023

**J2.** G. N. Sohsah, **A. R. Ibrahimzada**, H. Ayaz, and A. Cakmak, *"Scalable Classification of Organisms into a Taxonomy Using Hierarchical Supervised Learners"*, Journal of Bioinformatics and Computational Biology, World Scientific Publishing Co., Vol. 18, No. 05, 2020

## WORK EXPERIENCE

**University of Illinois Urbana-Champaign**                    **Illinois, USA**
*Graduate Research Assistant*                              *Aug 2022 - Present*

❖ **LLMs of Code:** Working on interpretable large language models of code for source code generation and understanding under the supervision of Reyhaneh Jabbarvand.

**IBM Research**                                              **New York, USA**
*Visiting Scholar*                                        *May 2023 - Aug 2023*

❖ **Code Translation:** Working on applications of LLMs for code translation under the supervision of Saurabh Sinha, Rangeet Pan, Rahul Krishna, Raju Pavuluri, and Reyhaneh Jabbarvand.

**University of Illinois Urbana-Champaign**                    **Illinois, USA**
*Undergraduate Research Intern*                          *May 2021 - Aug 2022*

❖ **Test Oracle Inference:** Design and development of an interpretable neural model to improve the performance of test oracles under the supervision of Reyhaneh Jabbarvand.
*Published in the ACM Joint ESEC/FSE in November 2022*

**Marmara University**                                       **Istanbul, Turkey**
*Undergraduate Researcher*                                *Jul 2021 - Jul 2022*

❖ **Depth Perception:** Developing and investigation of an attention-based neural model for estimating depth in stereo images under the supervision of Mehmet Kadir Baran.
*Awarded the Best Senior Graduation Project of the Year in June 2022*

**Istanbul Technical University**                            **Istanbul, Turkey**
*Undergraduate Researcher & Research Intern*              *Jun 2020 - Feb 2022*

❖ **Academic Success:** Designing and implementation of a clustering-based framework for predicting student success in courses under the supervision of Ali Cakmak.
*Manuscript under review in IEEE TLT*

❖ **SARS-Cov-2 Mutation:** Working on deep learning approaches to predict future Covid-19 mutations under the supervision of Ali Cakmak.

**Istanbul Sehir University**                                **Istanbul, Turkey**
*Undergraduate Researcher*                                *Jun 2019 - Jun 2020*

❖ **2-Step Taxonomy:** Designing hierarchical supervised learners for classification of living organisms under the supervision of Ali Cakmak.
*Published in the Journal of Bioinformatics and Computational Biology in October 2020*

❖ **Colorectal Cancer:** Developing machine learning models for predicting colorectal cancer under the supervision of Ali Cakmak.
*Published in the VII. International Molecular Medicine Congress in September 2019*
*Extended work published in Medical & Biological Engineering & Computing in October 2022*

## TEACHING EXPERIENCE

**Istanbul Sehir University**                                                **Istanbul, Turkey**
*Undergraduate TA*                                                           *Sep 2019 - Jun 2020*

- ❖ **ENGR 101 - Introduction to Programming (Fall 2019):** Teaching, advising, office hours, design and grading assignments of undergraduate freshman students.

- ❖ **ENGR 102 - Programming Practice (Spring 2020):** Teaching, advising, office hours, design and grading assignments of undergraduate freshman students.

## SOFTWARE DEVELOPMENT EXPERIENCE

**Marmara University**                                                       **Istanbul, Turkey**
Projects                                                                     *Jun 2020 - July 2022*

- ❖ **P2P Chat Application:** We designed and implemented a peer-to-peer chat application for private and group chats using TCP and UDP protocols. Python was mainly used in this project.

- ❖ **Certificiency:** We designed and implemented a peer-to-peer Event Management System which eases the process of event creation, event management, and issuing e-certificates to participants of an event. Flask, Angular JS, MSSQL were mainly used in this project.

- ❖ **Data Labeling System:** We designed and implemented a Data Labeling System for labeling instances of different datasets. Java was mainly used in this project.

- ❖ **Zoom Poll Analyzer:** We designed and implemented a Poll Analysis System for analyzing poll results of Zoom. Python and Scikit Learn were mainly used in this project.

**Istanbul Sehir University**                                                **Istanbul, Turkey**
Projects                                                                     *Aug 2018 - Jun 2020*

- ❖ **Smart Advisor:** Designed and implemented an intelligent web-based agent which uses machine learning to help students predict their letter grades before registering to a course. Flask, MySQL, and Scikit Learn were mainly used in this project.

## PROFESSIONAL ACTIVITIES

**University of Illinois Urbana-Champaign**                                   **Illinois, USA**
*Mentoring and Supervising Interns*                                          *Jun 2022 - Present*

- Palak Kotwani (BS, University of Illinois Urbana-Champaign - USA)

- Chung-En Ho (BS, National Taiwan University - Taiwan)

- Yung-Wen Huang (BS, National Taiwan University - Taiwan)

- Eren Polat (BS, Bilkent University - Turkey)

- Lily Yang (BS, University of Waterloo - Canada)

- Ryan Rong (Peddie High School - USA)

- Zelin Wang (BS, Nanjiang University / UC Berkeley - China / USA)

**University of Illinois Urbana-Champaign**                                   **Illinois, USA**
*Summer Research Experience for Undergraduates (REU) participant*            *May 2021 - Aug 2021*

## GRANTS

### Travel Grants

- ❖ ACM SIGSOFT CAPS travel grant to attend ESEC/FSE 2022 in Singapore
- ❖ UIUC CS travel grant to attend ESEC/FSE 2022 in Singapore
- ❖ KEN travel grant to attend QUEST-2015 in Lucknow, India

## TALKS

### Perfect Is the Enemy of Test Oracle

- ❖ ESEC/FSE 2022, National University of Singapore                                       November 2022