# ALI REZA IBRAHIMZADA

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Marmara University RTE Campus
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## EDUCATION

**Marmara University, Istanbul, Turkey** — **June 2020 - Present**
Bachelor of Science — CGPA: 3.98/4.00
Department of Computer Engineering

**Istanbul Sehir University, Istanbul, Turkey** — **August 2018 - June 2020**
Bachelor of Science — CGPA: 3.96/4.00
Department of Computer Science and Engineering

**Khana-e-Noor, Mazar-e-Sharif, Afghanistan** — **March 2014 - January 2017**
High School — Grade: 99%. Rank: 1

## PROFESSIONAL EXPERIENCE

**University of Illinois Urbana-Champaign, IL, USA** — **May 2021 - Present**
Research Intern

**Istanbul Technical University, Istanbul, Turkey** — **June 2020 - Present**
Research Assistant, Bioinformatics and Databases Lab

**Istanbul Sehir University, Istanbul, Turkey** — **June 2019 - June 2020**
Research Assistant, Bioinformatics and Databases Lab

## TEACHING EXPERIENCE

**Istanbul Sehir University, Istanbul, Turkey** — **September 2019 - June 2020**
Teaching Assistant

**Activities and Responsibilities:** Preparing assignments, grading assignments, grading exams, holding practice sessions, and holding office hours.

- ENGR 101 (Introduction to Programming) in Fall 2019
- ENGR 102 (Programming Practice) in Spring 2020

## RESEARCH EXPERIENCE

**Marmara University, Istanbul, Turkey** — **July 2021 - Present**
**Research Student**

- *Artificial Intelligence:* Utilizing deep learning techniques to estimate the depth of different objects in a scene using stereo images. *This is part of senior graduation project, and an ongoing research work.*

**University of Illinois Urbana-Champaign, IL, USA** — **May 2021 - Present**
**Research Intern**

- *Software Engineering and Artificial Intelligence:* Design and implementation of deep learning techniques to construct an automated test oracle. We hypothesize that if we train a deep learning model to embed both test and the code under test into a unified vector space, so that the passing tests are closer to correct code and failing tests are closer to the buggy code in the embedding space given their corresponding inputs, this deep learning model can serve as an oracle. *This is an ongoing research work.*

**Istanbul Technical University, Istanbul, Turkey** **June 2020**
**Research Assistant, Bioinformatics and Databases Lab** **- Present**

- *Machine Learning:* Design and development of a clustering-based framework for predicting student success, and extending the proposed framework with the novel statistical learning algorithms. The models were evaluated on a real life student-course dataset, and our proposed framework improved the state-of-the-art methods by nearly 36%.
- *Bioinformatics and Machine Learning:* Analyze SARS-Cov-2 muatation patterns in the virus genome using deep learning, and use the results to improve the production of future vaccines. *This is an ongoing research work.*

**Istanbul Sehir University, Istanbul, Turkey** **June 2019**
**Research Assistant, Bioinformatics and Databases Lab** **- June 2020**

- *Bioinformatics and Machine Learning*: Design and development of a hierarchical-based framework for classification of living organisms. Moreover, development of a supervised learning model for predicting the predisposition to colorectal cancer based on SNP profiles of immune phenotypes. The proposed models improved the state-of-the-art methods both in terms of accuracy and f1-score.

## DEVELOPMENT EXPERIENCE

**Marmara University, Istanbul, Turkey** **June 2020**
Projects **- Present**

- *Certificiency*: We designed and implemented an Event Management System which eases the process of event creation, event management, and issuing e-certificates to participants of an event. Certificiency is based on a peer-to-peer architecture and it is specifically built for big institutions.
- *Data Labeling System*: We designed and implemented a Data Labeling System for labeling instances of different datasets using Java. Users can load their datasets in a pre-defined format, and the application exports many useful metrics which helps in understanding the quality of labeled data.
- *Zoom Poll Analyzer:* We designed and implemented a Poll Analysis System for analyzing poll results of Zoom using Python. Users can load their student lists, answer keys and polls based on a pre-defined format. The application exports different statistics and reports ranging from attendance to clustering analysis for cheat detection.

**Istanbul Sehir University, Istanbul, Turkey** **August 2018**
Projects **- June 2020**

- *Smart Advisor*: An intelligent web-based agent which uses machine learning to help students predict their letter grades before registering to a course. Instructors can follow their advisees progress and view different statistics of the class. Students can rate their courses and instructors which affects later predictions.

## PUBLICATIONS

### Journal Publications

**J1.** Sohsah, G., Ibrahimzada, A. R., Ayaz, H., & Cakmak, A. (2020). Scalable Classification of Organisms into a Taxonomy Using Hierarchical Supervised Learners. *Journal of Bioinformatics and Computational Biology*. doi: 10.1142/S0219720020500262

### Conference/Workshop Publications

**C1.** Cakmak, A., Ibrahimzada A. R., Arikan, S., Ayaz, H., Demirkol, S. et al. (2019). Predicting the Predisposition to Colorectal Cancer based on SNP Profiles of Immune Checkpoints Using Supervised Learning Models. *VII. International Molecular Medicine Congress*, 20-21. (congress book) (full-text)

### Manuscripts under review

**M1.** Ibrahimzada, A. R., & Cakmak, A. (2020). Predicting Student Grades in Courses: A Clustering-Based Approach. *IEEE Transactions on Learning Technologies*.

**M2.** Cakmak, A., Ibrahimzada, A. R., Arikan, S., Ayaz, H., Demirkol, S. et al. (2021). Predicting the Predisposition to Colorectal Cancer based on SNP Profiles of Immune Phenotypes using Supervised Learning Models. *IEEE Journal of Biomedical and Health Informatics*.

## HONORS AND AWARDS

- Academic Achievement Scholarship, 100% scholarship in accordance with high GPA in 2019-2020, 2020-2021, and 2021-2022 academic years. Istanbul Sehir University & Marmara University. **July 2019**
- Valedictorian of graduating classes in high school. Khana-e-Noor Educational Network. **January 2017**
- Travel Award for attending QUEST-2015, 4th International Festival of Biotechnology in Lucknow, India. Khana-e-Noor Educational Network. **August 2015**

## ACTIVITIES

- Team leader, 11$^{th}$ Afghanistan National Science Competition, Kabul, Afghanistan **September 2016**

- Team member, 4th International Festival of Biotechnology, Lucknow, India **August 2015**

## TEST SCORES

**TOEFL iBT (CEFR Level B2)** **October 2021**
**Education Testing Service (ETS)** **- October 2023**

| Reading | Listening | Speaking | Writing | Overall |
|---|---|---|---|---|
| 23 | 27 | 26 | 27 | 103 |

**IELTS Academic (CEFR Level B2)** **February 2017**
**British Council** **- February 2019**

| Reading | Listening | Speaking | Writing | Overall |
|---|---|---|---|---|
| 6.5 | 7.5 | 6.0 | 6.5 | 6.5 |

## LANGUAGES

- Persian - Native or bilingual proficiency
- Pashto - Native or bilingual proficiency
- English - Full professional proficiency
- Turkish - Professional working proficiency