

SELCUK KORKMAZ, Ph.D.

Academic Resume

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BRIEF SUMMARY

I am a Ph.D. in the Department of Biostatistics. My research interests are focused on machine learning, epigenetics, proteomics and computer-aided drug design. I studied and completed my master at Ege University Department of Biostatistics in 2011 and I have developed new approaches for assessment of bioequivalence studies using nonlinear mixed-effects models. I worked as a visiting scientist at RCSB Protein Data Bank (at University of California, San Diego) and have developed new approaches for the evaluation of biological assemblies and protein-protein interfaces. I completed my Ph.D. under supervision of Prof. Dr. Osman Saraçbaşı and Dr. Peter W. Rose in 2016 at Hacettepe University Department of Biostatistics.

EDUCATION

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|---------------|-------|---|---|
| 2012-
2016 | Ph.D. | Department of Biostatistics, Hacettepe University | Thesis: A Novel Method for Prediction of Biological Assemblies and Protein-Protein Interfaces |
| 2009-
2011 | M.Sc. | Department of Biostatistics and Medical Informatics, Ege University | Thesis: A Novel Method for Prediction of Biological Assemblies and Protein-Protein Interfaces |
| 2004-
2008 | B.Sc. | Department of Statistics, Ege University | |

ACADEMIC EXPERIENCE

2012- present	Research Assistant	Department of Biostatistics, Hacettepe University
2015- 2016	Visiting Scholar	RCSB Protein Data Bank, San Diego Supercomputer Center, University of California San Diego
2011- 2012	Research Assistant	Department of Biostatistics, Trakya University

RESEARCH INTERESTS

Genetics, Proteomics, Machine Learning, Computer Aided Drug Design

LANGUAGE and COMPUTER SKILLS

Turkish: Fluent
English: Proficient

LaTeX-LyX: Excellent
SPSS-Statistica-Minitab-NCSS-PASS-GPower-MedCalc: Excellent
R-Orange-Weka-RapidMiner: Excellent
Python-Matlab-SAS: Intermediate
HTML-CSS-JavaScript-jQuery: Good
Java-AngularJS: Beginner

AWARDS, GRANTS and HONORS

1. Best oral presentation: Goksuluk D, **Korkmaz S**, Zararsiz G, Karaagaoglu AE “compSurv: compSurv: Sağlık Analizi için Web-Tabanlı Interaktif Bir Yazılım”, 18th National Biostatistics Congress, 10-12 September 2016, Antalya, Turkey.
2. TÜBİTAK, 2214/A International Research Fellowship Program: RCSB Protein Data Bank, San Diego Supercomputer Center, University of California San Diego, California/USA

3. Best oral presentation: International Conference on Bioinformatics and Computational Biology, 2015, China
4. Gevher Nesibe Research Award: Erciyes University Faculty of Medicine, 2015, Kayseri/Turkey.
5. Young Statistician's Showcase Prize: Zararsiz G, Goksuluk D, **Korkmaz S**, Eldem V, Unver T, Ozturk A "Classification of RNASeq Data via Bagging Support Vector Machines", XXVII International Biometric Conference, 6-11 July 2014, Florence, Italy.
6. Gevher Nesibe Research Award: Zararsiz G, Goksuluk D, **Korkmaz S**, Eldem V, Unver T, Ozturk A "Yeni Nesil Dizileme Sistemleri için Veri Madenciliği Aracı" 2014.
7. Best oral presentation: Zararsiz G, Goksuluk D, **Korkmaz S**, Eldem V, Unver T, Ozturk A "RNA-Dizileme Verileri ile Gen Ekspresyonuna Dayalı Sınıflandırmada Yeni Bir Yaklaşım ve MLSeq R/BIOCONDUCTOR Yazılımı", 16th National Biostatistics Congress, 10-12 September 2014, Antalya, Turkey.
8. ÖYP Travel and Project Grant (30.000 TL)

PROJECTS

1. TUBITAK Project "A Novel Method for Prediction of Biological Assemblies and Protein-Protein Interfaces", University of California San Diego, Supercomputer Center. Project coordinator: Peter W. Rose. 2015. (12 months).
2. Erciyes University Scientific Research Project "Novel Machine Learning Approaches for Classification of RNA-Seq Data", ID:5468. Project coordinator: Ahmet Ozturk. 2015. (24 months).

PUBLICATIONS

1. Zararsiz G, Ertürk-Zararsiz G, Ozturk A, Goksuluk D, **Korkmaz S**, Eldem V, Karaca H and Tasci T (2017) "Genome Wide Gene Expression Profiling and Molecular Classification of Renal Cell Cancer Subtypes" Journal of Advances in Information Technology, 8(1):10-16.
2. Göksülük D, **Korkmaz S**, Zararsiz G, Karağaoğlu AE (2016) "easyROC: An Interactive Webtool for ROC Curve Analysis Using R Language Environment" The R Journal (Accepted /In Press)

3. Zararsiz G, Goksuluk D, **Korkmaz S**, Ozturk A, Akyildiz HY (2016) "Statistical learning approaches in diagnosing patients with nontraumatic acute abdomen" Turkish Journal of Electrical Engineer and Computer Science 24, 3685-3697.
4. Zararsız G. **Korkmaz S**. Göksülük D. Eldem V. Öztürk A. (2015) "Diagonal Discriminant Analysis for Gene-Expression Based Tumor Classification" Journal of Advances in Information Technology 6(2), 59-62., doi: 10.12720/jait.6.2.59-62
5. **Korkmaz S**, Zararsiz G and Goksuluk D (2015) "MLViS: A Web Tool for Machine LearningBased Virtual Screening in Early-Phase of Drug Discovery and Development" PLoS ONE 10(4): e0124600
6. **Korkmaz S**, Goksuluk D and Zararsiz G (2014) "MVN: An R Package for Assessing Multivariate Normality" The R Journal 6(2), 151-162.
7. **Korkmaz S**, Zararsiz G and Goksuluk D (2014) "Drug/Nondrug Classification Using Support Vector Machines with Various Feature Selection Strategies" Computer Methods and Programs in Biomedicine 117(2), 51-60. DOI: <http://dx.doi.org/10.1016/j.cmpb.2014.08.009>
8. Zararsiz G, Goksuluk D, **Korkmaz S**, Eldem V, Duru İP, Ünver T, Öztürk A (2014) "Classification of RNASeq Data via Bagging Support Vector Machines" bioRxiv. DOI: <http://dx.doi.org/10.1101/007526>
9. Ikin Z, Perente I, Ozkaya A, Alp D, Agca A, Aygit ED, **Korkmaz S**, Yazici AT, Demirok A (2014) "Comparison of Efficacy Between Low-fluence and Half-dose Verteporfin Photodynamic Therapy for Chronic Central Serous Chorioretinopathy" Journal of Clinical Ophthalmology 2014(8), 685-690. DOI: <http://dx.doi.org/10.2147/OPHTH.S58617>
10. **Korkmaz S** and Orman MN (2012) "The Use of Nonlinear Mixed Effects Models in Bioequivalence Studies: A Real Data Application" Journal of Bioequivalence and Bioavailability. DOI: <http://dx.doi.org/10.4172/scientificreports.512>

CONFERENCE PROCEEDINGS (INTERNATIONAL)

1. Zararsiz G, Akyildiz HY, Goksuluk D, **Korkmaz S**, Ozturk A, Karahan S, Karaismailoglu E "DDNAA: Decision Support System for Differential Diagnosis of Nontraumatic Acute Abdomen", The R User Conference 2015, June 30 - July 3 2015, Aalborg/Denmark.

2. Goksuluk D, **Korkmaz S**, Zararsiz G, Karahan S, Karaagaoglu AE "easyROC: an interactive webtool for ROC analysis", The R User Conference 2015, June 30 - July 3 2015, Aalborg/Denmark.
3. Zararsiz G, Goksuluk D, **Korkmaz S**, Eldem V, Duru IP, Unver T, Ozturk A "MLSeq: Machine Learning Interface for RNA-Seq Data", The R User Conference 2015, June 30 - July 3 2015, Aalborg/Denmark.
4. **Korkmaz S**, Goksuluk D, Zararsiz G, "MLViS: A Web Tool for Machine Learning-Based Virtual Screening in Early-Phase of Drug Discovery and Development", 8th conference of the Eastern Mediterranean Region of the International Biometric Society (EMR-IBS), 11-15 May 2015 Nevsehir, Turkey.
5. Goksuluk D, Zararsiz G, **Korkmaz S**, Karaagaoglu E "Negative Binomial Linear Discriminant Analysis For The Classification Of Rna-Seq Data", 8th conference of the Eastern Mediterranean Region of the International Biometric Society (EMR-IBS), 11-15 May 2015 Nevsehir, Turkey.
6. Zararsiz G, Akyildiz HY, Goksuluk D, **Korkmaz S**, Ozturk A "Statistical Learning Approaches In Diagnosing Patients With Nontraumatic Acute Abdomen", 8th conference of the Eastern Mediterranean Region of the International Biometric Society (EMR-IBS), 11-15 May 2015, Nevsehir, Turkey.
7. Zararsiz G, Eldem V, **Korkmaz S**, Gökşülük D, Duru IP, Unver T, Karabulut E, Öztürk A "Diagonal Discriminant Analysis For Gene-Expression Based Tumor Classification", International Conference on Bioinformatics and Computational Biology (ICBCB 2015), 12-13 March 2015 Hong Kong.
8. Yamasan BE, **Korkmaz S**, Palabiyik O "Investigation of Angiotensinogen M235T and T174M Gene Polymorphisms in Coronary Artery Disease" Annual Meeting of German Biophysical Society, 14-17 September 2014, Lübeck, Germany.
9. **Korkmaz S**, Zararsiz G, Goksuluk D, Sarachasi O "Homology Modeling Using Machine Learning Approach", XXVII International Biometric Conference, 6-11 July 2014, Florence, Italy.
10. Zararsiz G, Goksuluk D, **Korkmaz S**, Eldem V, Unver T "Classification of RNASeq Data via Bagging Support Vector Machines", XXVII International Biometric Conference, 6-11 July 2014, Florence, Italy.
11. Goksuluk D, **Korkmaz S**, Zararsiz G, Karaagaoglu AE "Ensemble Machine Learning Approach for Biomarker Discovery using Mass-Spectrometry based Proteomics Data", XXVII International Biometric Conference, 6-11 July 2014, Florence, Italy.

12. **Korkmaz S**, Zararsız G and Dalkara S “Drug/Non-Drug Classification Using Machine Learning” International Multidisciplinary Symposium on Drug Research and Development, 28-30 November 2013, Antalya, Turkey
13. **Korkmaz S**, Göksülük D, Zararsız G “bbRVM: an R package for Ensemble Classification Approaches of Relevance Vector Machines” The R User Conference 2013, 9-12 July 2013, Albacete/Spain
14. Arslankoz S, **Korkmaz S**, Netto GJ, Baydar DE. “Immunoexpression of mTOR Pathway Members in Non-Invasive Papillary Urothelial Neoplasms of Bladder” Annual Meeting Abstracts, February 2013, USA
15. **Korkmaz S** and Orman MN “The Use of Nonlinear Mixed Effects Models in Bioequivalence Studies: A Real Data Application” 26th International Biometric Conference, 26-31 August 2012, Kobe, Japan
16. **Korkmaz S** and Orman MN “A Simulation Study Based on Nonlinear Mixed Effects Models” 6th EMR-IBS Conference, 8-12 May 2011, Crete, Greece

CONFERENCE PROCEEDINGS (NATIONAL)

1. Göksülük D, **Korkmaz S**, Zararsız G, Karahan S. "compsurv: Sağlık Analizi İçin Web-Tabanlı Interaktif Bir Yazılım", XVII. National And I. International Biostatistics Congress , Antalya, October 2016.
2. Öztürk A, Zararsız G, Çiçek B, Mazıcıoğlu MM, Ertürk-Zararsız G, Ünlüsavuran M, Göksülük D, **Korkmaz S**, Kurtoğlu S "Kayseri'de 6-17 Yaş Arasındaki Çocukların Vücut Bileşenlerinin Değerlendirmesinde Hattori Grafiği Uygulaması" XVII. National And I. International Biostatistics Congress , Antalya, October 2016.
3. Ünlüsavuran M, Zararsız G, Ertürk-Zararsız G, Göksülük D, **Korkmaz S**, Kavcu BO, Öztürk A "Metabolomik Verilerinin Kümeleneşinde Danışmansız Random Forest Yaklaşımı" XVII. National And I. International Biostatistics Congress , Antalya, October 2016.
4. **Korkmaz S**, Rose PW, Duarte JM, Prlic A, Göksülük D, Zararsız G, Saraçbaşı O "Protein Veri Tabanındaki Hatalı Yapıların Tespiti Ve Hata Oranının Belirlenmesi" XVII. National And I. International Biostatistics Congress , Antalya, October 2016.

5. Zararsız G, **Korkmaz S**, Eldem V, Göksülük D, Ertürk-Zararsız E, Ünlüsavuran M, Öztürk A "Independent Hypothesis Weighting In Differential Expression Analysis Of Rna-Seq Data" XVII. National And I. International Biostatistics Congress , Antalya, October 2016.
6. **Korkmaz S**, Göksülük D, Zararsız G "MVN: Çok Değişkenli Normal Dağılıma Uygunluğun Belirlenmesi için Bir R Paketi" 16th National Biostatistics Congress, 10-12 September 2014, Antalya, Turkey.
7. **Korkmaz S**, Göksülük D, Zararsız G "MVN-web: Çok Değişkenli Normal Dağılıma Uygunluğun Belirlenmesi için Bir Web Uygulaması" 16th National Biostatistics Congress, 10-12 September 2014, Antalya, Turkey.
8. **Korkmaz S**, Zararsız G, Göksülük D, Saraçbaşı O "Makine Öğrenimi Yaklaşımı ile Homolog Protein Tespiti" 16th National Biostatistics Congress, 10-12 September 2014, Antalya, Turkey.
9. Göksülük D, Zararsız G, **Korkmaz S**, Eldem V, Duru İP "RNA-Dizileme Verilerinde Kullanılan Anlamlılık Testlerine İlişkin Hesaplama Sürelerinin Karşılaştırılması" 16th National Biostatistics Congress, 10-12 September 2014, Antalya, Turkey.
10. Zararsız G, Eldem V, **Korkmaz S**, Göksülük D, Duru İP, Ünver T, Öztürk A "De-Brujin Grafikleri ile De-Novo Genom Dizileme Analizleri" 16th National Biostatistics Congress, 10-12 September 2014, Antalya, Turkey.
11. Zararsız G, **Korkmaz S**, Göksülük D, Eldem V, Öztürk A "RNA Dizileme Verilerinin İstatistiksel Değerlendirilmesi" 16th National Biostatistics Congress, 10-12 September 2014, Antalya, Turkey.
12. Zararsız G, Göksülük D, **Korkmaz S**, Eldem V, Duru İP, Ünver T, Öztürk A "RNADizileme Verileri ile Gen Ekspresyonuna Dayalı Sınıflandırmada Yeni Bir Yaklaşım ve MLSeq R/BIOCONDUCTOR Yazılımı" 16th National Biostatistics Congress, 10-12 September 2014, Antalya, Turkey.
13. Göksülük D, **Korkmaz S**, Zararsız G, Karaağaoğlu E "Kütle-Spektrometresine Dayalı Proteomik Verilerinin Ensemble Veri Madenciliği Yöntemleri İle Sınıflandırılması" 16th National Biostatistics Congress, 10-12 September 2014, Antalya, Turkey.
14. Yamasan BE, Gülyaşar T, Sipahi T, **Korkmaz S**, Palabıyık O "Koronar Arter Hastalığında Anjiyotensinojen M235T ve T174M Gen Polimorfizimlerinin Araştırılması Ve Risk Faktörlerinin Belirlenmesi" 25th National Biophysics Congress, 24-27 September 2013, Trabzon, Turkey

15. **Korkmaz S**, Zararsız G, Coşgun E, Dalkara S, Saraçbaşı O “Drug/Non-Drug Classification Using Support Vector Machines with Various Feature Selection Strategies” 15th National Biostatistics Congress, 20-23 August 2013, Aydın, Turkey
16. **Korkmaz S** and Süt N “Dört Gözlü Kontenjans Tablolarında Yates Düzeltmeli Ki-Kare Testinin İncelenmesi: Simülasyon Çalışması”. 14th National Biostatistics Congress, 4-7 September 2012, Kayseri, Turkey
17. **Korkmaz S.** and Orman MN. “Doğrusal Olmayan Karma Etki Modelleri Üzerine Bir Simülasyon Çalışması”. 12th National Biostatistics Congress, 28 June - 1 July 2010, Van, Turkey

REFERENCES

Peter Rose, Ph.D.

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